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For many fortunate discoveries in Medicine, and for the detection of numerous errors, the world is indebted to the rapid circulation of *Monthly* Journals.—*Rush.*

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Essays.

Art. I.—*Hints on the Pathology and Treatment of Tetanus.*

Certainly no subject can be a more proper object of continued scrutiny, than one, which is still a reproach to both the science and the art of our profession. Medical ambition could scarcely attain a higher object than such an investigation of the pathology of this appalling disease, as should enable the practitioner to meet his enemy upon fair and open ground.

This is a disease, indeed, which hides itself in the very penetralia of the system—the tissues whose organization and properties are least known, and is the morbid exercise of vital powers whose healthy operations we do not sufficiently understand. It appears to me, however, that the physiology of organs affected by tetanus has far outstripped their pathology, and that we are using traditionary language in regard to their diseases, which our present knowledge of their functions will not altogether warrant.

Tetanus is scarcely ever spoken of but as a disease of the nervous system, nor do we even hear of its being treated otherwise than as such. The opinions which, till recently, have generally prevailed in regard to the relation between the nerves and the muscles, have referred all the phenomena of muscular contraction to the influence of the nerves; the ramifications of these organs in the muscular texture being supposed to be essential to the organization and vital properties of the latter. Haller indeed inclined to the belief that

there resided in the muscles, and independently of the nerves, a property of contractility which merely responded to the stimulus of the nerves. This vis insita musculorum he supposed to be inherent in the muscular fibre itself, and to be an ultimate property of life.

This position, although maintained by a great many cogent facts and inferences, was by no means generally admitted, but was the occasion of one of the warmest and most protracted controversies of which the annals of medicine furnish an account. The opposite opinion, viz. that contraction is a phenomenon which results merely from the exercise of vital properties resident in the nerves, was stoutly maintained by Whytt, to whose side came the greatest number of those physiologists who were at all interested in the question. Indeed this hypothesis, though counter to some irresistible facts, was far more consonant with the opinions then generally entertained in relation to life as a general principle. Life was regarded as an indivisible principle, resident in the sensorium, and animating every organ through the medium of the nerves. The admission of a vital property, distinct from this, was deprecated as an approach to materialism, and hence, in part, the reluctance with which this innovation in this respect was permitted.

The irresistible march of truth, however, has borne down all opposition from this source, and since the researches of Bichat, Bordeu, Meckel, Philip, Lawrence and others, life is generally regarded as a series of phenomena, or effects, resulting in the elementary tissues. Still, however, many physiologists are reluctant to admit that contraction can take place in any of the muscles without the agency of the nerves. The experiments of Philip, however, have furnished evidence, which, to most physiologists, is satisfactory, that contractility, or the power of contraction, is an inherent property of the muscular fibre ordinarily excited and controlled by the stimulus conveyed by the nerves, although capable of being called into exercise by other irritants. Muscles may be made to contract, when their nerves are divided, by electricity. The heart, when torn from the body, is made to perform its systole by the injection of a fluid.

But we do not undertake to argue the point. We believe that it has been sufficiently discussed, and that the opinion of Philip is getting to be generally received.

The establishment of so important a principle, then, should necessarily influence our rationale of abnormal functions. If the muscles possess so important a vital property—a property to which their own perfect organization and the healthy circulation of the blood is

undoubtedly necessary, should we not pay some regard to the diseases of the muscular fibre, as a primary source of morbid deviations? If the muscles possess their peculiar vital properties, they must also have their own susceptibilities. Nevertheless, although pathologists recognize diseases of the nervous system, diseases of the vascular system, of the lymphatic system, &c. all morbid phenomena manifested by the muscular system still continue to be referred to the nerves, even by those who believe in the independent contractility of the muscles. All spasmodic diseases are classed with nervous diseases, and are, for the most part, treated as if always emanating from the nervous centres, as sometimes they undoubtedly do. But the healthy condition of a muscle is certainly as much to be ascribed to its complete organization and to the nutrient and stimulant influence exercised upon it by the blood as to the degree or kind of stimulus which is exercised upon it. It obeys the stimulus conveyed by the nerve because itself possesses a peculiar susceptibility, and therefore it must be obvious that when this susceptibility is diminished by defect of nutrition or other cause, that it will reluctantly respond to the stimulus and hence will result disease. So, on the other hand, when the nutrient vessels which organize this texture and endow it with its properties, confer upon it a preternatural sensibility, its contraction will be morbidly augmented.

The probability is, also, that the circulation of the blood is in some way perpetually necessary to the presence of this property in the muscles. If the blood be withheld from a part by the application of a ligature, paralysis is produced almost as promptly as when the nerve is divided. We necessarily infer, then, that a morbid condition of the blood, which may certainly become a primary source of disease, will morbidly modify the susceptibility of the muscles.

I am the more fully persuaded of this from the results of certain experiments performed by M. Segalas in relation to the absorption of certain agents. He found that when the nux vomica was introduced into the circulating blood, it produced the same spasm in the muscles, the nerves of which had been divided, as in those whose nerves remained entire.

I have had occasion to observe what in my opinion are to be regarded as two distinct varieties of that which is commonly termed tetanus. The first is a spasmodic affection of the muscles which very promptly results from the infliction of an external injury, espe-

cially of irritable parts, and when there exists an irritable state of the system generally. It seems to be the immediate result of local irritation, and is not ushered in by the symptoms of vascular disturbance and derangement of the functions generally, which introduce the more insidious form of the disease.

It frequently occurs within a few hours, or even minutes, after the injury, and before any indication can be derived from the aspect of the wound. It is also more a disease of paroxysms, and the spasm often intermits. Fortunately in another respect it differs remarkably from the insidious disease, in being more under the influence of remedies.

Indeed every phenomenon which is manifested tends to shew that this variety is a mere commotion of the nervous system. The remedies which are found to be effectual are those which are calculated to sooth nervous excitement. It is probably from the beneficial effects of opium in cases of this character that this article has been by some so much relied upon in all forms of this disease. Many other remedies have, in the treatment of this variety, acquired reputation, when perhaps the spontaneous efforts of nature would have been adequate to overcoming the disease.

The insidious and far more fatal form of traumatic tetanus, for the most part, occurs from the seventh to the tenth day after the injury, and does not begin, as does often the former, with convulsive contractions of the muscles, but with a rigidity of these organs and pain on attempting motion. This occurs first about the neck, jaws and back, and gradually developes the tetanic spasm.

Simultaneously there occurs the characteristic præcordial distress, febrile symptoms, and always an unhealthy aspect of the wound.

It is by no means my present intention to describe with particularity the traits of this disease, nor to discuss the merits of the various remedies which, from time to time, have obtained reputation in the treatment of this formidable disease. My object is rather to present my peculiar views of its pathology, with suggestions in regard to its treatment and with an analysis of that which the more recent writers have reported in relation to it.

From reasons already in part assigned it will be inferred that I by no means regard this disease as exclusively referable to a morbid condition of the nervous system. There are many other circumstances which lead to the same conclusion. No adequate derange-

ment of structure has been uniformly detected in any part of the nervous system, although, in their post mortem inquiries in relation to this subject, physicians have especially directed their attention to these organs. The spinal marrow, as the source of most of the nerves of voluntary motion, has often been examined with care. The reports, however, are very incongruous. It is by no means necessary that I should detail those which have been made by different individuals. Some have indeed reported a degree of inflammation affecting the vascular tissues enveloping the medulla; others have reported effusion into the spinal sheath, but many have been utterly unable to discover any organic derangement adequate to the character of the disease; nor indeed do those who refer the disease to the morbid condition of the brain or spinal marrow, specify any particular and uniform derangement of the tissues of these organs.

Some recent writers have maintained that the sympathetic system of nerves, and especially those of the solar plexus, are implicated in the primary organic derangement, and cases have been reported in which those organs were found in a morbid condition. This, however, is by no means a uniform circumstance, nor more frequent than we may presume to result from the participation of these organs in the general disturbance; for we know that they are the thoroughfare of all sympathies which associate animal and organic life. It is observed that the abdominal viscera always suffer remarkably in this disease, and hence it is to be inferred that the channels through which they influence and are reciprocally influenced should be more or less deranged.

The period at which the insidious tetanus becomes developed appears to me to furnish evidence that the proximate cause of the disease is not wholly located in the nerves. Whatever cause inflicts extreme injury on the nervous system is promptly followed by its appropriate effect, viz. constitutional irritation expressed in convulsions in what is termed the shock of the system, or in one variety of the tetanic spasm. In the second variety of tetanus, however, the spasm does not occur till long after the period at which nervous irritation usually developes its characteristic phenomena.

The appearance of the wound also corroborates our position. In the first kind of tetanus there is nothing remarkable in its appearance, nor will there often have elapsed time for the occurrence of obvious vascular derangement. There is a propriety then in regarding this as purely nervous. But in the second variety the first source of alarm to the surgeon is the ill-conditioned aspect of the

wound, which is also simultaneous with general disturbance of the vascular, and especially the secretory organs.

But one of the strongest circumstances upon which I rely in proof of the assertion that the tetanic contraction is owing to a morbid susceptibility in the muscular fibre itself, and not to morbid excitement produced by the nerves, is the fact that after death, and when all nervous stimulation has ceased, the muscles still remain rigid and the body inflexible. After death the effect must be altogether mechanical and the rigidity of the muscular fibre must be entirely owing to some change in its own organic state.

The influence of remedies, or rather the defect of them, is also in some degree characteristic. Medicines designed to influence the nervous system, and it is this class which is chiefly employed, are observed not to exercise the power which we should expect on the supposition that the disease consists merely in preternatural, or in morbid stimulation of the muscles by the nerves. By obtunding the nervous sensibility we should, in this case, expect at least to suspend the morbid excitement of the muscles. Very rarely does any such effect result from the use of the most powerful narcotics. Cases have indeed been reported in which opium, exhibited in very large doses, has appeared to aid materially in subduing the disease; but as the distinction which we have indicated as existing between the two varieties of the disease is not made by writers, we have reason to believe that the reported success has been observed in the convulsive kind and not in the insidious. I do not mean to assert, however, that the narcotic medicines are of no value in the insidious variety, for through the medium of the nervous system undoubtedly the other organs are to be influenced, and those remedies which make a strong impression on the nerves will be felt by the muscles.

The conclusion then to which I would arrive from the foregoing state is, that the immediate cause of the alarming and generally fatal symptoms which characterize tetanus, is seated in the muscular fibre itself, and that it consists in a morbid condition and augmentation of the natural sensibility which in the muscle responds to the stimulus of the nerve. The condition of the muscular fibre may perhaps result from a morbid condition of the circulating fluids and the disturbed operations of vital chemistry and of nutrition in this texture. That the nervous system in a greater or less degree participates early in these morbid phenomena can not be denied, and perhaps so far as they are concerned in nutrition and the circulation they are primarily affected; but their influence on the voluntary muscles, for

reasons already urged, is not the immediate cause of the tetanic spasm.

But if, as I have asserted, it be true that tetanus is a disease of the muscles rather than the nerves, what practical inference are we to draw from such a pathological principle? I am not prepared to assert that, if my position be correct, there will immediately result from it an infallible mode of treatment which we may oppose with precision to a disease so formidable in its character. It is obvious, however, that until the pathological character of a disease be understood it is impossible that any progress should be made in its scientific treatment. Our practice, till then, must be altogether empyrical, although sometimes perhaps successful.

If the immediate cause of the disease in question be seated in the muscular fibre generally, it is obvious that we should not expect to subvert it merely by the use of those remedies which make but a transient impression upon the nervous system. The healthy state of contractility in the muscles is undoubtedly dependent in part on a healthy condition of the circulating blood, and the healthy exercise of the affinities of vital chemistry. All the operations of nutrition, secretion, and depuration are performed in a morbid manner and thus are morbid susceptibilities bestowed upon the parts.

The prime indication then is to restore the healthy action of those organs which preside over the organic functions. We should then, as speedily as possible, call into exercise the healthy action of the depurating organs. The medicines which we exhibit should not be administered with a view merely to augment or to diminish action, with which intent they seem often to have been employed. The most powerful alteratives, then, are the remedies upon which I would chiefly rely, and I believe that, of the medicines empyrically employed, they will be found to have been generally the most successful. One of the most important of these perhaps is the submuriate of mercury, given in large doses and, to favour its alterative influence, associated with opium. The muriate of the same metal might be employed with the same intent, and with confidence in its sooner influencing the capillary system. Stoll placed chief confidence in mercury employed for the purpose of salivation. I am inclined to think that others would have reported more favourably in regard to its use, had they prescribed it in a manner corresponding to the rapid progress of the disease. Dr Calhoun has seen the practice successful in the Pennsylvania Hospital. Sir James M'Grigor reports very favourably in regard to the action of calomel on the bowels.

Dr Potter observes that " mercury should never be omitted except in tetanus from large wounds and in these only because salivation can not be effected. No patient dies of tetanus after a free mercurial discharge from the salivary glands shall have been effected. Calomel *in any quantity* may be combined with opium or employed alone as a cathartic. The quantity usually employed is mere tantalization. The mercurial emetic, hyperoxy-mur. merc. in the manner recommended in trachitis, is not only justifiable but necessary, and often successful when no other means can succeed that we know."

Were mercury generally employed in the energetic manner here recommended, I am persuaded that it would not be found so often to disappoint the practitioner. In the different modes of using the same article there is often as great a diversity of effect as in the employment of those possessing opposite qualities.

The modus operandi of this article is not explicable merely by the alterative influence presumed to be exercised by it, but also by the fact that of all other articles it is one perhaps best calculated to produce vascular excitement and irritability, and thus to relieve, by derivation, the morbid excitability of the muscular fibre. I would, however, question the propriety of attempting to excite vomiting by mercurial medicines, or indeed by any other. The convulsive effort of the muscles concerned in the act of vomiting would, I should apprehend, greatly aggravate the painful tetanic spasm, and we have the more reason to infer this, from the occasional injurious effect of merely moving the body, or even the head, in altering its position. For the most part, however, the stomach and bowels are, in this disease, exceedingly torpid, and we have therefore the less to fear on this account.

On being called to a patient affected with unequivocal tetanus, I would at once exhibit at least a drachm of the submuriate of mercury and repeat it at short intervals until an obvious effect was manifest in the system. In case I preferred to employ the muriate I would exhibit it in a corresponding dose. At the same time I would assiduously employ the inunction of the mercurial unguent. As all the vital powers seem, in this disease, to be absorbed and concentrated in the morbid irritability of the muscular fibre, it obviously becomes, in this disease, one of the most important indications to counterexcite some other tissue or system of organs. We know that there exists between the voluntary muscles and the mucous membrane of the alimentary canal a remarkable sympathy, for proof and illustra-

tion of which I refer to the writings of Broussais. Violent and fatiguing exercise of the voluntary muscles is found often to influence morbidly the vital powers of the membrane, and, vice versa, the morbid excitement of the mucous membrane is found to diminish the contractility of the voluntary muscles. Now, may we not, in some cases of the disease under consideration, be able to avail ourselves of the reciprocal influence exercised by these organs, and may we not effect this by the use of some remedy which shall powerfully impress the mucous membranes generally? It is not merely physiological speculation which induces us to place confidence in a remedy of this class. There are facts upon record which, in relation to this suggestion, are highly interesting. Tetanus is reported, in several instances, to have been cured by the use of the tincture of cantharides, given in such copious doses as to produce inflammatory excitement along the whole tract of the intestinal canal. The relief in these cases was simultaneous with the impression upon the mucous membranes. A very interesting case of this kind is reported in the Medical Repository by Dr Brown of Kentucky, in which between one and two drachms of the tincture were exhibited.

Dr Ives of New Haven, also, in his lectures, speaks very favourably of the use of this article in tetanic affections, and anticipates a favourable result of the case, when the mucous membranes are made to respond to the impression of the remedy.

Of all remedies perhaps the tincture of cantharides is the best for fulfilling this indication, it having, in its action, a remarkable affinity for the mucous membranes generally. The terebinthinate medicines may also be employed with the same intent. Every effort should be made to rouse from their state of torpor and insensibility the digestive organs. The very existence of this state of inaction is, indeed, evidence of the sympathy existing between them and the voluntary muscles.

Not only should medicines of this character be administered internally, but they should be employed with equal assiduity upon the skin, the excitement of which texture will in a similar manner tend to relieve the morbid state of the muscles.

In regard to the employment of narcotic medicines, they certainly may be advantageous without however their being supposed to exercise their influence ultimately on the nervous system. Morbid irritability of the muscles may be under the control of sedative medicines, as undoubtedly is the morbid sensibility of the nerves. The effect of these remedies, therefore, may be presumed to be in some

degree favourable in this affection, whether exercised through the medium of the nerves or the circulation; yet we are not to rely upon them with the confidence which they would merit from us, did we believe the disease to be seated in the nervous system.

Of all narcotic remedies we are certainly to rely with most confidence upon those which are attended with the most immediately sedative effects. Of these there is perhaps none from the effects of which we should anticipate more than the hydrocyanic acid. Cases in which this article has been successfully exhibited have recently been reported.

In the Philadelphia Journal for May last there is reported a case by Dr Skinner, in which tobacco injections were employed with marked success. They appeared first to rouse the action of the intestinal canal, and soon the tetanic spasm began to yield.

In regard to the effects of copious bleeding we have no data upon which we can rely with confidence in its benefits. It has very often been employed to the greatest possible extent, and for the most part without the slightest beneficial effect. It is one of those remedies to which the attention of physicians has long been directed, in relation to this disease, and hence can not be important, as the treatment of the malady, by remedies hitherto devised, has been notoriously unsuccessful. It has not failed, as mercury may have done, from not being properly employed.

But pathologically we should not expect the abstraction of blood to avail much, because obviously tetanus is not a disease of vascular excitement. We have seen, indeed, that the production of morbid vascular excitement in the mucous membranes is attended with beneficial effects. Nevertheless I should not apprehend injury from the employment of moderate bleeding in this disease. Indeed it may enable us the more effectually to translate vascular action to a particular tissue or organ without provoking general excitement, as might be done in the employment of the cantharides.

The cold shower bath, which has sometimes been employed with good effects, may be resorted to without interfering with other remedies. It is beneficial undoubtedly by the impulse which it gives to the nervous system, and by the re-action which it produces in the cutaneous tissues.

Undoubtedly it is of the utmost importance, whatever may be our general plan of treatment, to promote regular and free evacuations from the bowels; and to effect this we should not only employ

active cathartics (for the bowels are remarkably torpid), but we should conjoin the persevering use of stimulating enemata.

It may perhaps be objected to my practical inferences that they are in a great degree the untested offspring of speculation. But certainly in regard to a disease, like that of which I have treated, and which as yet has for the most part bid defiance to all remedial means, suggestions which are founded on correct pathology are by no means to be rejected. If the ideas which I entertain in regard to the nature of the disease be correct (and certainly there are important facts which favour them), the reason why so many have been foiled in the treatment of the disease is obvious, viz. that remedies have been employed without any specific object, and hence not with constancy and effect.

ART. II.—*On Derangements of Function in the Stomach without any appreciable Lesion of Structure, in Individuals who had been affected with Chronic Gastritis. By M. Andral. Lerminier.*

Among those individuals who perish under the various shades of chronic gastritis, some sink gradually, without the appearance of any other disease, but merely from debility, often without any febrile movement in the system till the last. In other cases the chronic passes into the acute form of gastritis, when fever, of a low type, then generally supervenes, in which the patient succumbs. In a good number of cases, however, death is occasioned by the supervention of a disease in some other part, as acute inflammation in the intestinal canal, in the peritoneum—perforation of the stomach itself, &c. In some few instances, our authors have seen patients affected with chronic gastritis die of cerebral disorder, that had supervened on the original malady. In such cases, the most careful dissection could not detect any appreciable lesion, either in the stomach or brain. The following cases are interesting, under this point of view.

Case 1. A cook, aged 38 years, had laboured under symptoms of indigestion for a long time. He vomited up the remains of his food, every two or three days; but affirmed that he never felt pain

in the epigastrium. The tongue was white, the emaciation considerable, pulse rather accelerated, temperature of skin natural. Three weeks passed without any change in these symptoms, when, on the 11th of June, there appeared to be some wandering of the ideas. He kept his eyes fixed on the ceiling of the room. Blisters to the legs. In the course of the night the mind became more deranged, and on the 12th there was complete delirium. The patient lay on his back, his eyes turned up, and his mind apparently in a state of total abstraction. He would not reply to any questions, but only pronounced, from time to time, some unintelligible words. The pulse was quick, the skin moderately hot. 13th, The left pupil was strongly contracted, and the conjunctiva of the eye much injected. He appeared blind of this eye. The sense of hearing also appeared very obtuse—pulse extremely quick, but the skin not hot. He died the next day, without any particular symptom beyond what has been described.

Dissection. The meninges of the brain were free from injection, white, and transparent. The lateral ventricles contained a very small quantity of limpid serum, and the same was found, in very moderate proportion at the base of the skull. The cerebral substance was generally pale, and appeared sound in all respects. The thoracic organs were in a state of integrity. In the neighbourhood of the pylorus, the coats of the stomach were considerably thickened, and rather homogeneous in consistence. In the great arch of the stomach, there was an abrasion of the mucous membrane, the size of a thirty-sous piece. The bottom of this ulcer was formed of thickened cellular membrane. In every other part, the stomach was sound. There were some points of injection in the mucous lining of the intestines; but generally speaking, they were very pale. No other disease in the abdominal viscera.

Our authors ask if the cerebral symptoms which appeared, and which indeed caused the death of the patient, could be called meningitis, or merely a sympathetic affection of the cerebral functions, independent of phlogosis? We think the last conclusion must be come to, even by the staunchest supporters of the doctrine of Clutterbuck. The above case shews that irritation of the brain and nervous system may supervene on stomach disease, without any transition of the chronic gastritis into the acute form.

Case 2. A woman, aged 40 years, experienced, for a long time, those symptoms which usually indicate organic disease of the sto-

mach; as anorexia, tenderness or pain in the epigastrium; sense of uneasiness and plenitude in the stomach, after taking food; eructations; vomitings, though rarely, and only when the mind was irritated by any moral cause; constipation; apyrexia. The patient was still rather embonpoint. About ten days after she came into the *Charite*, she was seized, without any known cause, with an attack of epilepsy. To these convulsions there succeeded a state of coma, with paralysis of the limbs, and rattling noise in the throat. She died 25 hours after this seizure.

Dissection. The pia matter covering the convexities of the cerebral hemispheres was injected and red, this redness appearing in stripes or patches. In no place was it so intense, however, as to render the membrane opaque. In other respects, the meninges appeared sound. The brain itself, and the spinal marrow were found without any appreciable lesion, their vessels being very moderately injected.

The stomach was greatly contracted, being not larger than a portion of intestine. The mucous membrane was of a slate colour, and thrown into numerous folds or wrinkles which, on accurate examination, appeared to be unequal thickenings of the membrane, and not produced by mere contraction of the muscular coat of this organ. There was nothing amiss in any other part of the body.

Here there was no organic lesion which could account for the epileptic seizure that caused the death of the patient. But it is not in cases of gastric affection alone that our authors have seen fatal cerebral disorder supervene. They have observed similar accidents, where the stomach was sound, and only some chronic inflammation in the intestines. The following is an example.

Case 3. Catherine, aged 38 years, a cook, and whose mother was insane, had always been subject to violent head-aches, which she attributed to determinations of blood to the head. She had not menstruated for ten years past. She entered *La Charite* on the 29th of September 1826, and on the 30th presented the following symptoms:—eyes sparkling—pupils dilated, and but little sensible to light —no fixed pain in any part of the head—violent delirium, with intervals of sense, when she answered questions rationally—hallucinations of sight and hearing—pulse full, but easily compressed—respiration natural. By auscultation and percussion, the thoracic organs were found in a state of integrity. The tongue was dry, and slightly red, the papillæ salient—abdomen tender on

pressure, especially in the epigastric region—constipation—urine scanty—the bladder appeared distended. Twenty-four leeches had been applied to the epigastrium; and thirty more were now ordered to the anus and vicinity—with sinapisms to the feet—lavements, &c.

1st October; eyes haggard and watery—lies in a state of tranquillity and obstinate taciturnity—jaws firmly locked—pulse small and frequent—slight heat of skin. The history is not continued; but on the 28th of October, it was decided to send the patient to the *Salpetriere*, as she was pronounced to be insane. She was accordingly sent to that establishment, but died suddenly the very next day, at two o'clock in the morning.

Dissection. The membranes of the brain and spinal marrow, examined with the greatest care, presented no appreciable change of structure. The same might be said of the cerebral and spinal brain themselves. There was a small quantity of limpid serum in the lateral ventricles. Nothing particular in the thoracic viscera. A portion of the mucous membrane of the stomach, the size of a crown piece, situated in the great arch, was injected, and of a dark colour. The mucous membrane of the cæcum was also injected. Throughout the whole of the colon the mucous follicles were strongly developed, and chronically inflamed. The mucous membrane, in the interstices, was not altered. The colon represented a triangle, the apex of which corresponded with the xiphoid cartilage, and the base with the hypogastric region. The uterus and its appendices were in a natural state.

Here there was no structural lesion in the brain to account for the death of the patient, and the only disease of any standing was the chronic follicular inflammation in the colon.—*Med. Chirurg. Rev. for July* 1827.

Adversaria.

ART. I.—*On a Case of Wound of the Anterior Tibial Artery.*

A very interesting case of wound of the anterior tibial artery occurred some time since to the editor of this Journal, attended with phenomena exceedingly interesting in relation to the physiology and pathology of the circulation, and very well illustrating principles advanced by Professor Smith, of Yale College, in an article on the pathology of the arteries published in the fifth number of this Journal.

The patient, a Mr Blodget of Jericho, Vermont, wounded the anterior tibial artery, a little below the middle of the leg, with a narrow chisel which entered from the outside of the leg, just anterior to the fibula, and divided many of the fasciculi of the exterior muscles which envelope the artery. Undoubtedly the artery was merely partially divided by the angle of the instrument. I infer this from the effects which resulted.

At the instant of the wound there took place a copious gush of blood, which very much alarmed the patient and friends. Dr Hamilton, an intelligent young physician, was sent for, who, on his arrival, found no difficulty in suppressing the hemorrhage for the time by means of compression. As he had reason to believe the artery completely divided by the instrument, he presumed that the pressure being continued, the hemorrhage would not recur. The patient continued apparently to do well, no more than the usual degree of inflammation supervening, until the end of two weeks, at which time, on attempting to make a greater effort than usual with the limb, blood gushed from the wound as furiously as when the limb was first wounded. Dr H. was immediately called, and on his arrival the hemorrhage was commanded as before by employing pressure. The limb being at this time a good deal tumid, from dif-

fusion of blood in the cellular tissue, Dr H. presumed that the artery could not be found by searching the wound.

After this the bleeding occurred at intervals for two or three days, when I was called to the patient at Dr Hamilton's request. We agreed that, as the wound was remote from anastomosing branches, and as the vicinity of the wound was much injected with blood, the best method would be to cut for the artery above the wound, and very near the middle of the leg. I immediately proceeded to the operation, and without much difficulty exposed the artery where it lies deeply imbedded between the tibialis anticus and flexor communis muscles. A ligature was thrown round it, not without some embarrassment, in consequence of its depth and the tension and volume of the muscles. Before tying the ligature I held my finger upon the artery, and distinctly felt its pulsations, and in order to assure myself that the artery was included, I drew upon the two ends of the thread, and immediately the artery ceased to beat. This I repeated several times, so that there could be no doubt that the artery was secured. The ligature was then firmly tied, and immediately the pulsation, which before could be seen in the orifice of the wound, ceased entirely, and the blood also ceased to flow.

As the hæmorrhage did not return, I left the house with very little apprehension as to the result. As I was many miles from home, however, I slept that night in the neighbourhood. In the morning I was much surprised at being called in haste to visit the patient on account of the return of the bleeding. On my arrival, however, it had again ceased; yet there was obviously a pulsation in the wound, similar to that which had been observed before the operation.

On applying my finger to the anterior tibial, upon the instep, (where all pulsation had ceased immediately after tying the ligature) I was surprized to find that the artery pulsated vigorously, and on comparing its beat with that of the opposite foot, I was still more surprised to find that it was much stronger and more full in the wounded limb than in the other. To ascertain the direction of its current, I then placed one finger upon the upper part of the artery, and pressing it firmly so as to stop its circulation, I felt for its pulsations below, and found them still vigorous. I then reversed this and found that the blood was passing in a full stream in the retrograde direction.

I thought it advisable, before attempting any thing further with

the knife, to endeavour to prevent the recurrence of bleeding by compressing the artery upon the top of the foot. This was accordingly done, and apparently with good effect. As, however, I could not remain with the patient to witness the result, I advised Dr Hamilton, should the bleeding recur, to cut down upon the region of the wounded artery, and endeavour to make compression upon the wounded vessel. This he was subsequently compelled to do, and with difficulty he saved the limb.

This case is particularly interesting in regard to the manner in which the circulation was kept up in the wounded limb.

It is obvious that the increased pulsation in the artery could not have been owing to an increase in the *vis a tergo* of the heart, for, were this the case, that of the other limb should have corresponded. The stream of blood received by the artery must necessarily have been smaller than usual if the arteries be regarded as passive. The fulness of the artery and its active beat are to me conclusive evidence that the arteries exercise, in the circulation, a power which is independent of that of the heart, and which is influenced by the action of the capillaries in the inflamed part.

ART. II.—*Ligature of the External Iliac. By M. Dupuytren.*

Case. F. Berger, a stone mason, aged 45 years, strained himself while lifting a heavy burthen, in June 1815, and experienced an acute pain in his left groin for a few minutes, but which did not prevent him from following his employment at the time. Two months afterwards he felt a small tumour, two inches below the crural arch, to which he paid little attention. The tumour gradually increased in size till June 1816, when, on making another muscular exertion, the swelling suddenly augmented to the size of a hen's egg. Finally, in the beginning of August, he fell against the edge of a large copper vessel—struck the tumour, and increased the evil. He entered the Hotel Dieu on the 23d of August 1816. The tumour was now the size of a large pear, extending from a little above to some inches below the crural arch, standing out two inches from the surface of the parts. It pulsated in accordance with the heart. On making strong pressure on the tumour it partially disappeared, and its parietes then felt unequal, and of cartilaginous

consistence. Pressure removed, the swelling returned, as it were, *per saltum*, to its original dimensions. There could be no doubt that the disease was aneurism of the femoral artery, and it was determined to try the effects of pressure before having recourse to the ligature. By means of a kind of truss, pressure was made on the extremity of the external iliac artery where it passes over the pubes, and a little above that spot. When the machine was applied, all pulsation ceased in the tangible arteries of the limb. The tumour itself was kept covered with ice in a bladder. But it was soon found that the pulsations returned in the tumour whenever the patient coughed, talked, or made even the slightest movement. Besides this, the degree of pressure necessary for suspending the force of the circulation could not be borne for any length of time, especially when the ice was applied, which rendered the pain of the pressure much more insupportable. This pressure, alternately kept up and suspended, was continued till the 18th of September, when it was abandoned altogether. The tumour was now insensibly diminished. On the 20th of the same month, another bandage or belt was applied, which had the advantage of following the movements of the pelvis, and making a much more uniform and effectual pressure: but the patient had not fortitude to bear the pain for any great space at one time, and strenuously urged M. Dupuytren to perform the operation. On the 16th of October, therefore, the operation was performed in the usual way, though with considerable difficulty, in consequence of the condensation of the cellular tissue over the artery, and the enlargement of a chain of lymphatic glands. One ligature was applied an inch above the aneurismal tumour, and a spare ligature was thrown round the vessel, but not tied, still higher up on the vessel.

It was remarked during the operation, that, when the patient held in his breath, and strained the abdominal muscles, the edges of the wound were pressed together, and the peritoneum forced, as it were, through the opening. This caused considerable embarrassment.

The man supported the operation well; but, immediately afterwards, was affected with nausea and disposition to syncope, which, however, were relieved. The limb preserved its sensibility and temperature through the day; but the patient complained of pain in the abdomen, especially in the epigastric region, with constant gaseous eructations, and, at one period of the day, universal heat and some thirst. In the evening the belly was tympanitic, and the patient was in a state of extreme anxiety. There were also some

symptoms of cerebral congestion in the night. *Venesection—frictions over the abdomen.* The night was spent without sleep, and in much pain. 2d day. The motility and sensibility of the limb continued unimpaired, and the abdominal pains persisted. The stomach was so distended with gas, that it could be plainly traced across the epigastric region. The eructations were constant—pulse thick—features shrunk—tongue, teeth, and mouth covered with black sordes. After having enemata administered, the patient had a temporary respite from suffering; but the epigastric pain returned as violent as ever. He was bled again, and more lavements were thrown up. In the evening there was some wandering of the mind, and the patient lost all recollection of what had happened through the day. Bled again to 8 ounces. Glysters brought away much flatus, but no fæcal matters. He had some hours sleep. 3d day. The symptoms mitigated in all respects. Castor oil was given this day, but no stools procured. He slept three hours this night. 4th day. Although the epigastric pain was diminished, the gaseous eructations continued. The patient had some appetite to day, and was allowed two plates of soup. The state of the limb was satisfactory, and he slept some hours in the night, but was disturbed with frightful dreams. 5th day. The dressings were removed, and suppuration was established; but there was a black spot at the upper part of the wound. The tumour was diminished to one-third its original size, and had no pulsation. He had delirium in the night. Enemata brought away a copious black motion, after which the delirium ceased. 6th day. The symptoms were unfavourable. The mouth and tongue black, pulse quick, something like pulsation in the tumour. The symptoms, however, got better in the evening, and the patient had some hours of sleep. 7th day. The tongue dry and red—pulse not so frequent—no pain in any part of the body—suppuration abundant and good—slight pulsations, or rather tremors, in the tumour. (Legers fremissemens.) Two copious evacuations from enemata. Some appetite—some bouillie allowed. The eructation now ceased for the first time since the operation. 9th day. While dressing the wound this day, a strong pulsation was perceived in the left side of the abdomen, a little above the wound, and apparently proceeding from the iliac artery. The pulsation was also more distinct in the tumour than before, although its size was daily diminishing. Some wine was now allowed to the patient. On the 13th day, a small abscess broke into the wound, and its formation was

evidently the cause of the pulsation above mentioned, and which now ceased. On the 16th day the ligatures came away. The appetite daily increased. 20th day. The pulsations in the tumour are still visible and tangible—suppuration abundant. In the night of the 23d day, there was some hæmorrhage from the wound. When examined, the source of the bleeding could not be ascertained. 24th day. A second and more copious hæmorrhage took place this morning, accompanied by pain in the wound. The blood seemed to come from the inferior angle of the wound, and was evidently arterial. Pressure above the wound did not arrest the hæmorrhage—pressure below did. A pad was fixed below the wound—the patient's countenance was changed for the worse—and the gaseous eructations again appeared. M. Dupuytren was puzzling himself about the source of the hæmorrhage, when he felt, on examining the abdomen, and much to his astonishment, the epigastric artery, greatly enlarged, and pulsating distinctly under the abdominal integuments. The pulsations were particularly conspicuous in the neighbourhood of the wound. It then immediately struck him that the pulsation in the tumour was owing to the free communication of the blood through the internal mammary and epigastric arteries—and that, hence, a too great facility of communication, far from being favourable to a cure, in this operation, was the cause of the reproduction of the malady.

M. Dupuytren looked upon the hæmorrhage as coming from the inferior extremity of the artery, and then asked himself the question—can this extremity be tied? It must be extremely short above the tumour, and he thought the operation impossible. If the artery were taken up below the tumour, it would also be below the origin of the profunda, and would be of no use. Should the tumour be opened, as it used to be, in the ham? How was the flow of blood to be commanded above the scene of operation, in such case? M. Dupuytren gave over all thoughts of tying the epigastric, the profunda, or the femoral artery, and determined on pressure. He, therefore, endeavoured to ascertain the exact point from which the hæmorrhage came. Pressure below the wound invariably stopped the flow of blood; while that which was made above had no effect. The blood, therefore, came from the lower extremity of the divided artery. In an hour and a half a third hæmorrhage took place, and was restrained by pressure. But pressure was painful, and whenever it was removed, the bleeding returned. The patient was in a dangerous predicament. After

clearing away some clots of coagula, a rush of blood took place, and M. Dupuytren thrust his finger to the bottom of the wound, by which he arrested the hæmorrhage. He now clearly ascertained that the blood came from the lower extremity of the vessel. A dossil of charpee, well rolled in powdered rosin, was quickly introduced to the bottom of the wound, and firmly kept there by superincumbent compresses. The whole was secured by a kind of truss. This species of pressure gave great pain, but was more patiently supported than formerly, as the man was now very sensible to the danger of his own condition. In the evening, all was found secure, and no hæmorrhage had taken place. On the 25th day, blood was found to have escaped, and new compresses and pressure were applied. The limb was in a good condition as to temperature, sensibility, and muscular power; but the *morale* of the patient was lowered, and he felt pain in the epigastrium, and discharged much gas by the mouth. These symptoms had a good deal disappeared by the evening. 26th day. A considerable quantity of blood was found to have escaped at the side of the compresses, as well as pus. Between the 27th and 29th days, there was some discharge of pus, but no hæmorrhage. On the 30th day, a fresh hæmorrhage occurred, but not to the amount of more than two or three ounces. It was arrested by new compresses and bandages. After this there was no more bleeding. Part of the dressings were removed on the 32d day. There was discharge of pus, unmixed with blood. On the 33d day, the upper part of the thigh was found inflamed, and the patient had fever, intense thirst, and some delirium in the night. Cold applications were used to the inflamed parts. On the 34th day, the whole of the compresses were very cautiously removed, and the wound presented only a purulent secretion, of good quality:—It was simply dressed, and the inflamed parts were kept covered with compresses, wet with the liq. plumb. acet. The aneurismal tumour had now no pulsation. There was much inflammation, however, and constitutional disturbance. Although the patient had no stool for some days, M. Dupuytren was afraid of ordering a lavement, lest, while at stool, there might be a fresh hæmorrhage. A considerable abscess formed in the upper part of the thigh, and gave exit to a large quantity of pus. From this time the patient went on well, and by the 60th day from the operation he was able to leave his bed.

The patient was carefully examined on the 15th of January 1827,

eleven years after the operation, and was found in good health, having worked all this time at his trade, as a stone mason.

The question of secondary hæmorrhage in this case is an interesting and important one. The ligature was applied low on the iliac, just above the origin of the epigastric and circumflexa ilii. What was the consequence? Why that, in the upper portion of the artery, there was room for the formation of a clot, two inches in length, or more; whilst, in the lower portion, the whole force of the collateral circulation was brought, by means of the enlarged epigastric, to the very verge of the ligature. Under these circumstances, no sufficient coagulum could be deposited; there was no security, in consequence, against the secondary hæmorrhage; and it was this portion of the vessel that actually and naturally gave way.—*Med. Chirurg. Rev. for July* 1827.

ART. III.—*On Lunar Caustic. By Mr Higginbottom of Nottingham.*

Mr H. is very particular in directing the attention of practitioners to the proper mode of applying the caustic. He uses it in the solid form, first slightly moistening the surface to which it is to be applied with pure water—except in the case of ulcers, from which lymph or pus exudes. If the caustic be passed *once* slightly over the moistened skin of any part (except the hand, where the cuticle is thick) an eschar simply is formed. If passed *twice* or *thrice*, some vesication will be added to the eschar:—if still *more frequently*, there will be vesication alone. In the first case, there will be no pain—in the second and last, there will be soreness proportionate to the degree of vesication. These observations should be kept steadily in view.

1. *Recent Bruised Wounds of the Skin.* In these cases the caustic should be applied upon the wound, leaving no spot untouched—and also upon the surrounding skin to the extent of one-third of an inch, in such a manner as to induce an eschar, without vesication. Moisture is then to be removed from the wound by linen or lint, and the skin surrounding that to which the caustic is applied, is to be moistened, and covered with gold-beater's skin. The parts are to be kept cool—free from covering—and exposed to the air. By this

procedure an adherent eschar is generally formed, and no farther application or attention is required, except in old people, whose skins are sometimes irritable. In these cases some fluid will form upon the edges of the eschar requiring evacuation by a small puncture. If the eschar be accidentally removed, the caustic must be repeated as before.

2. *Small Ulcers.* Mr H. thinks he has improved greatly upon the mode of application in these cases, since his first publication The surrounding skin is first to be moistened, and the caustic applied lightly, (so as not to induce vesication) to the extent of half an inch round the ulcer. It is then to be applied over the ulcerated surface, more freely than to a recent wound. The whole is to be covered by gold beater's skin. The application of the caustic round the ulcer subdues the inflammation of this part, and induces a firmer and more adherent eschar. On the succeeding day, the gold beater's skin is to be removed, by moistening it with water—"a small smooth slit is to be made by means of a pen-knife, through the eschar, in its central part, and then a little pressure is to be made, so as to evacuate any fluid which may have been effused." The breach in the eschar is to be repaired by re-applying the caustic, and the whole is to be protected as before.

On the first and second days there is usually little fluid secreted—during the succeeding five or six days, rather more is formed, and the same means are to be repeated, until the eschar becomes completely adherent, which will be ascertained by the indentations on the surface of the eschar, usually about the tenth day. During the unadherent state of the eschar, an efficient purgative should be given every second or third day, and rest enjoined. The portions of eschar, as they separate, are to be carefully removed by sharp scissors.

3. *Punctured Wounds and Bites.* In *recent* punctures, all loose portions of skin closing the orifice are to be first removed—the puncture and surrounding skin are then to be moistened with water—the caustic is to be applied to the *former*, until some pain be experienced, and over the *latter* lightly, so as not to induce vesication. The caustic is then to be applied to the skin for an inch round the puncture—and even to a greater extent, if the swelling exceeds the space. The part is to be exposed to the air. These cases are generally adherent from the first application of the caustic. Some

times, however, this is not the case, and the caustic is to be re-applied.

At a later period of punctured wounds, inflammation is generally present—the punctured orifice is nearly closed—and some pus has usually formed. A slight pressure is to be applied to evacuate the humour, and the caustic is then to be introduced into the puncture and on the surrounding inflamed skin, and even beyond that space. The parts are then to be exposed and allowed to dry. In this manner an adherent eschar is formed, and the inflammation subsides. If an abscess have formed, it must be freely opened, and the caustic is to be applied within the cavity, after which a poultice of bread and water.

4. *External Inflammation.* In this case, the part is to be washed with soap and water, and wiped dry. The inflamed surrounding skin is then to be moistened, and a long stick of caustic to be applied flat upon the moistened surfaces, taking care that every part of the inflamed skin be touched, and also a circle of skin beyond the boundary of the inflammation. The caustic should be passed twice or thrice only over the said surfaces, and then exposed to the air to dry and be kept cool.

In twenty-four hours, the inflammation will have greatly subsided, or be checked, and at this period there is usually some vesication, which, however, never increases the inflammation or irritation. On the third day there is generally more vesication—the part has a puffy feeling, and is quite free from inflammation.

In cases of erysipelas from wounds or ulcers, the wound or ulcer and the inflamed surface are to be treated by combining the above modes of using the caustic.

5. *In constitutional Erysipelas*, bleeding, purging, and emetics are to be premised, and then the caustic is to be applied in the following manner:—viz. over the whole inflamed surface, and beyond it to a far greater extent than in phlegmon—to two inches on the sound skin. Any fresh accession of erysipelas is to be healed in the same manner immediately. Mr H. believes that, by means of the caustic, we have a complete control over the disease. If the erysipelas be attended with vesication, the vesicles should be broken, and the parts touched with the caustic. When the disease affects the head, the scalp should be shaved, that there may be no impediment to the application of the caustic.

6. *Phagedenic Ulcers.* The caustic is to be lightly applied to the whole ulcer, but particularly to its edges and over the surrounding skin. If situated on the glans penis, a little lint is to be left upon it—if on any other part, the cold poultice and lotion are to be applied.

Having no experience in this mode of managing inflammations and ulcers, we should deem it impertinent to make any remarks. We have laid the directions of Mr Higginbottom fairly before the profession, and the remedy will doubtless be soon put to the test of farther experience*.

Art. IV.—*On the Treatment of Chronic Diarrhea.*

There are many forms of this disease evidently dependent on ulceration or other organic lesion of the mucous membrane of the bowels, the consequence, or at least the sequence of dysentery. But there are some other cases of obstinate diarrhea, where the disease goes on for years, and where dissection, after all, detects no organic change in the intestines. Dr Baillie has described "a particular species of purging," which is but little known, and has generally proved fatal. The alvine discharges resemble a mixture of lime and water, with froth on the surface. It most commonly occurs in people who have resided in warm climates, and suffered from hepatic affections: but not exclusively in this class. When the disease is in a mild form, the evacuations are of the consistence of pudding, and of a pale colour. Under such circumstances, and especially if the motions be occasionally figured, the patients may live many years with the complaint. They have usually a sallow countenance—are thin, but not greatly emaciated—have tolerable appetites—white coated tongues. Nothing particular can be detected when the abdomen is examined by the hand. There is no tumour—no pain on pressure—but the bowels are generally distended with air. Dr Baillie never had an opportunity of examining any patients who died of this disease, and therefore could not speak as to its pathology.

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* Med. Chirurg. Rev. for July 1827.

But Mr Wardrop, in a note to his edition of Dr Baillie's works, informs us that he (Mr W.) had an opportunity of dissecting a patient who had been under Dr B.'s care for this complaint, and that he found considerable thickening of the coats of the rectum and colon, great contraction of the calibre of the gut, with small, but deep ulcers interspersed over its surface. Dr Seymour and Mr Arnott, however, have each had an opportunity of examining the intestinal canal in this complaint; but in these instances, there was no breach of structure or organic alteration of any kind in the large or small intestines.

We have been induced to notice this subject in consequence of a remedy which has been introduced of late by Dr Elliotson, at St Thomas's Hospital—namely, the sulphate of copper, combined with opium. This zealous physician has given the remedy in a considerable number of cases of chronic diarrhea, where all, or almost all other remedies had failed, and with complete success in every instance. The dose is generally half a grain twice a day, with half or a grain of opium, increasing the dose to two or three grains in the day, but seldom beyond that quantity. We understand that Dr E. made experiments with the opium alone, which failed to cure the patients—and the reason why he combined it with the sulphate of copper, was to prevent the latter from causing pain in the stomach and bowels.

Dr E. is inclined to view the remedy in respect to its modus operandi, as simply an astringent; but when we reflect on the power which this sulphate possesses of allaying irritability when applied to external sores, we shall be induced to attribute much of its success in these cases, to its action as lessening morbid irritability of the intestinal canal. But as Dr Elliotson's observations will probably soon be published, we shall defer any farther remarks till that period*.

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* Med. Chirurg. Rev. for July 1827.

Analytical Reviews.

A Treatise on the Nature and Cure of Rheumatism. By C. Scudamore, M.D. F.R.S. Lond. 1827.

This book, the result of patient industry and observation from an author so well known, and so deservedly celebrated as Dr Scudamore, has excited some expectation abroad, and has been received here with the distinction which his great name deserves. It is customary to regard those diseases which are not fatal in their results, however protracted and painful they may be, as a neglected common hardly worthy of cultivation from any motive which may excite philanthropy or skill: and therefore after the physician has paid the ordinary attentions, he consigns him to the department of incurables, and regards the disease as one of those wild and unexplored regions where labour is unprofitable toil, where every thing is barrenness and sterility, and where the most industrious only sow to reap discomfiture and mortification.

Chronic rheumatism is in some measure of this description; and even the inflammatory form too often baffles all our art to prevent its ending in this most incurable of all maladies. Though the latter is unmanageable, as it is generally seen connected with habits of life, either too secluded, or too irregular as to diet, or too great exposure, yet as every disease admits of degrees, and as every susceptibility may be increased and diminished, the patient investigation and accurate knowledge of remedies, principles, symptoms and causes, must often give to the physician, who acts on the principle of nil desperandum, many triumphs where victory is possible; must mark his way through society as one strewed with benefits and blessings to his fellow men, and finally distinguish him as a beacon of excellence to point the way to those who follow in the same illustrious career.

It is on this account that chronic diseases deservedly claim and always receive from the intelligent a due portion of attention. Every thing here below is a constant struggle, a battle between evil and good; a scene of emulation between those who wish to be better, who fear to be worse, and those who have ascended higher above them on the imaginary hill of earthly happiness. Accordingly,

he that observes the times and the seasons of action, and goes boldly and with judgment to his duty where judgment and duty point the way, will find that there is no evil so dangerous that may not be palliated or arrested, if it cannot be overcome. Even hydrophobia, so difficult to cure, does not always take place, and when it does, it is under such circumstances, that like all other evils, its greatest and its least extremes are infinitely removed, and in some cases opens a wide scene for the ingenuity and the talents of medicine*.

With such principles as these, the physician, like the saviour of mankind, goes forth conquering and to conquer: where the disease is curable, it yields more speedily; where it is only capable of relief, the palliatives are applied with the energy and enthusiasm of anticipated success, and thus a balm is poured into the mind, that great magazine of morbid causation, a firmness and a tone into the system, which invigorates the cure; and if the evil is beyond remedy, the soft means and appliances which give even to defeat the air of success, in the moral comforts and assuaging consolations (proper and legitimate instruments of medical aid), arise in their endless resources to delay the painful hour, and to elevate the character of the physician in the estimation of all who witness his efforts.

To minds of this description the following remarks on rheumatism are addressed, as laying before them the matured experience of Europe on the subject now under deliberation, interesting to us particularly from its frequent occurrence in our variable climate.

The seat of rheumatism is still in dispute. It is impossible as yet to fix whether it should be referred to the muscles, their sheaths, nerves, ligamentous structure or cellular membrane. Notwithstanding the great hubbub made by the late discovery of Bichat, of the distinct membranous structures of the body, it will be found that in violent cases of rheumatism, no particular structure is exempted, and that this fever, like all others, occasionally attacks all structures, and that from contiguous parts it is easily and rapidly propagated. I have seen the cellular membrane affected as appeared by examination after death; the muscles, the bones, the ligaments, the tendons, and their sheaths are its seats, as is shewn by the touch. The nerves are so, as is evident from the pain, in their course, from the tingling sensations and the loss of feeling in the parts to which they are distributed.

It is always of importance to designate the seat of the pain, as the attending fever varies in some measure, according to the structure affected. When in the ligaments the constitutional irritation is

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* See Notes to Gregory's Practice, art. Hydrophob. which prove that this disease is sometimes intermittent, that it may continue for a long time without being fatal, that it has a close analogy with epilepsy, the cousin german of the whole nervous tribe, and of course that it admits of all the various degrees of intensity which many other diseases exhibit.

greatest, next in tendons, and least of all in the bursæ. In general, its position will be known from the disturbance of the functions of the part: thus, when in the diaphragm, there is a spasmodic affection of the breathing, anxiety, &c. This general remark is particularly important, as the means must be proportionally active when a vital organ is affected; and the duration of the attack depends much upon the part affected; when the heart is its seat it kills in a few hours; when a ligament it lasts a lifetime.

The seat of the inflammation; its extent; the violence of the application of the exciting cause; the strength of the predisposition, whether hereditary or acquired; and the mode of life, as well as the previous treatment, before regular aid is called, are, it may be observed in passing, the principal criteria by which the duration of this affection is generally determined, always recollecting that the seat of the disease and its violence are the principal circumstances viewed in a practical light.

The fatality of rheumatism varies according to the estimates of different writers; out of seven hundred and fifty-one, thirteen died according to Sir Gilbert Blane; according to others in smaller proportion; regulated by comfort, and regularity of attendance, &c. Thus there will be more deaths in hospitals, than in private practice among the rich; fewer in civil hospitals, than in military, where an army is campaigning, and cannot have the comforts necessary to the sick. Death generally takes place from the translation of the disease to some vital part, as to the brain, heart, lungs, producing hemoptysis, &c.

Of all these translations, that to the heart is the most important; sometimes it is the result of the retrocession of the rheumatism, sometimes from its excessive increase; both of which arise frequently from improper stimulating treatment.

Delirium, effusion between the membranes of the brain, are its effects when the dura mater is the seat. The influence, however, of a long protracted duration of the complaint are no less sure upon the system; it induces phthisis; chorea; ague; &c. circumstances, which shew the importance of the malady in all its relations.

Dr Cullen mentions one case, in which suppuration was the result of this kind of inflammation; it certainly occurs rarely; Dr Scudamore never saw but one; Mr Breschet mentions another.

In all cases the violence of the disease will be found to be proportional to the nature of the parts affected, and to the extent of the inflammation; the pain, which is an item also to be taken into view, is proportional to the depth of its seat; in sciatica it is always great; it abates if swelling should occur externally, as by this means the vessels are unloaded.

The lymphatics are sometimes affected with rheumatism; as appears by their wiry hardness to the touch and the appearance of red lines on the surface.

Rheumatism may be combined with other diseases; as pneumonia, enteritis, which have very little of the character of rheumatic inflammation: it must also be recollected, that the muscular fibres of the intestines may be affected with rheumatism, and produce an appearance of enteritis, when it does not exist. The susceptibilities of the patient, the translation of pains from the muscles to the bowels suddenly, the exposure to cold or to wet previously, will in this case all assist in determining the nature of the case.

Without stopping to tire the reader with any opinions on the subject of diagnosis, we proceed to the treatment.

The organs of digestion should be a subject of scrupulous inquiry, in commencing the treatment, from the danger of confounding the disease with the gout. Venesection is the great sheet anchor of our hopes in the first stage; the hardness and tension of the pulse are the best indications of its propriety: and it is to be continued as long as this hardness remains. A distinction of Laennec may be here noticed, in which he states that the pulse is sometimes fictitiously weak, when there is sufficient power in the heart, which must be examined by the stethoscope: and when it is found, that the contraction of the ventricles are powerful, bleeding may be resorted to with the greatest benefit; and on the contrary when the heart is feeble, even though the pulse should shew signs of strength, bleeding will not be proper. The powers of the system deduced from age, the previous state of health, the power of bearing depletion in previous illnesses, the relief afforded by it immediately on its abstraction, the buffy coat, and the extremely cupped state of the blood all are good signs of the necessity of bleeding. There is, however, one state, in which we may be deceived by the copious use of bleeding, and that is, in pregnancy, where the buffy state always occurs; and after taking certain vegetables, as mustard: these circumstances should be known as they may do much good in regulating our movements.

Relief on every bleeding, without an increased debility, is the most certain sign of its usefulness, and if the diaphragm, the heart or the head, be the seats of the disease, it must always be drawn in great quantities, and promptly till relief takes place: recollecting always the character of the system, for if it be delicate, the activity of the circulation may be excited more from nervous irritability, which will be increased by venesection.

With regard to the quantity to be taken the rule of Sydenham in a common sized man, of a moderately strong constitution, is a good one; that is, ten ounces on the first day, as much on the second day, and then in a day or two after a third bleeding as the strength may allow; adhering to a diet of whey alone at the same time.

Sometimes, when the system is not so highly inflammatory, local bleeding answers every purpose. There is in this disease the same variety of diathesis, as in every other; v. s. will not suit all cases;

on the contrary, it is observed by Dr Fordyce that cases of metastasis have been rare since he left off bleeding in his practice, though before it they were very common: a circumstance explicable by the fact that the cases treated by Dr Fordyce were generally in St Thomas's Hospital, and of course from the lower orders, whose systems are exhausted by living almost entirely on porter without much solid food, and by breathing after they were admitted an impure air. In the country in England, it is found to be the best practice to bleed freely, and it will be advisable in all cases where the constitution is good, the patient young, and accustomed to labour, always regulating our movements by the prevailing state of disease if inflammatory or otherwise.

On this last subject Dr Pearson of Clapham gives a valuable piece of information; during the prevalence of a low typhoid fever rheumatisms were treated in that neighbourhood by purgatives, colchicum, and the bark even during the prevalence of the fever; other testimony goes to prove that in marshy districts v. s. is often impossible, as it induces intermittent and remittent fevers; one bleeding might with some safety be attempted in these cases, but the bark is the great sheet anchor. In autumn, it should always be recollected that bleeding is not borne so well as in spring, from the debilitating effect of the abstraction of heat in the fall, and its sudden addition in the spring to an excitability highly raised in the winter.

Before we conclude this subject, however, we must not forget the experience of Sydenham with regard to this remedy which in all doubtful cases should be had recourse to: after much experience of the practice of bleeding he gives the history of his success with another plan; that is by confining the patient to a diet of whey alone; of which he took usually a gallon in the 24 hours; and after the pain had gone, and the patient had got about, he lived upon chicken, and the lighter meats, omitting on the third day all food excepting whey. If to the whey be added small doses of tartar emetic, (we now speak of the commencement of the attack) we think in all cases, the effect will be expedited. The Italian plan of repeating this remedy in doses sufficiently large to make an impression on the stomach without producing vomiting, has an effect upon rheumatism often the most magical; removing it in seven or eight days, instead of eighteen as Sydenham's plan pretended to do.

This practice is supported by the best experience of France. M. Laennec observes, "that, with the exception of inflammation of the lungs, there is no inflammation in which the use of tartar emetic is more efficacious than in articular rheumatism. The medium duration of the disease under the influence of this remedy, is from seven to eight days; and we know that it continues from one to two months under the treatment of bleeding, or la methode expectante. But the tartar emetic has succeeded least favourably when muscular and articular rheumatism prevail at the same time." He adds, "I

have, however, sometimes observed, though rarely, relapses of the articular inflammation without having discontinued the use of the medicine; and, in two cases, I have been obliged to interrupt its use, because the stomach would not accommodate itself so as to retain it."

On the mode of administering the medicine in the treatment of pneumonia, the following extracts will sufficiently exemplify the practice of M. Laennec, in regard to the treatment of acute rheumatism. Immediately after bleeding, he directed, as the first dose, a grain in two ounces and a half of a light cold infusion of orange flowers, sweetened with half an ounce of syrup of mallows, or orange flowers. He repeats the dose every two hours for six times, and then waits for seven or eight hours, if the occasion be not too urgent, and if the patient be inclined to sleep. In urgent circumstances, the medicine is continued without interruption, till the symptoms abate: and sometimes he raises the dose* from a grain and a half to two grains, employing the same quantity of vehicle.

"Many of those affected with inflammation of the lungs, support the medicine administered in this manner without vomiting, and without purgative effects. Others, and these form the greatest number, are affected with two or three vomitings, and with five or six actions of the bowels, on the first day; but on the successive days, they have only moderate evacuations, and sometimes not any more. When once *the tolerance* of the medicine is established, it often happens that the bowels become constipated, requiring the use of aperients."

"When the evacuations continue on the second day, or when on the first there is reason to apprehend that the medicine will not be borne without difficulty, it is right to add to the six doses, which are to be taken in the twenty-four hours, one or two ounces of the syrup of white poppy. In general, the effects of the tartar emetic are never more happy than when it does not produce any kind of evacuation; and yet sometimes the amendment which it causes is accompanied with a general sweat."

"He proceeds to describe the merits of this valuable medicine, pointing out how materially it serves to abridge the necessity of bleeding, and that it produces more permanently good results; the liability to relapse being so much less than when the symptoms have been treated by bleeding."

In all cases where the disease is yet in its commencement, an emetic and a purge will be proper to throw off any undigested materials remaining on the stomach; it will more particularly be found useful in those cases of rheumatic fever, which occur late in au-

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* In another passage, he remarks, "that it is very common to witness the accommodation of the patient to the medicine; so that when he arrives at the point of convalescence from pneumonia, with the appetite of health, he takes very increased doses with sensible inconvenience."

tumn, where the disease is to be considered as rather a concealed bilious fever than a simple inflammatory one.

In fine, so diversified are the actions of the system, produced by the various causes which act upon it, that the most extended views of pathology alone can conduct us safely to our destined port. To those who regard any affection of the human body as simple in its nature, and who consider that the office of a physician is merely to pour medicine from a dead bottle to a living one, without regard to the innumerable varieties of circumstances which continually keep awake upon his post the benevolent physician, we would advise that the profession of the murderer and the robber is light in point of criminality to theirs; they are indeed the Sampsons of medicine; the blood of thousands is on their heads.

With regard to the sudorific practice, the danger of exciting the system by too warm clothing, which is necessary to secure its full advantages, has put it out of use, from its tendency to increase the fever. If any medicines of this class are proper, the present experience justifies the use of the citrate and the acetate of ammonia with small doses of tartar emetic, and if the patient is feeble and without much fever, the Dover's powders may be tried. The same caution applies to opium. Dr Scudamore advises the following preparation given every hour or two till the pain is relieved:

Pot. carbon. 108 gr. Succ. citri. recent. 2 oz. Mist. camphor. 3 1-2 oz. Liquor. opii. sedat. 1 1-2 to 2 dr. Syrup. tolutan. 1-2 oz. Antimon. tartarizat. 1 to 2 gr. M.—Fiat mistur.

It is given in the dose of one, two or three table spoonsful every hour or two till the patient is relieved. The acetate of morphine is the least stimulating preparation; given with camphor and a small dose of the hydrocyanic acid, it succeeds admirably in relieving the pain without producing confusion of head; the proportions are a quarter to half a grain of the acetate to one or two drops of the acid, repeated as the occasion may require. As the acid however is not always of the same strength, the dose must be adjusted with the greatest caution.

If the pain be very great, a large dose of opium may be taken without injury. When irritation only exists without fever, the following draught given every eight hours will be found useful.

Liquor. ammon. acetat. 1-2 oz. Vin. Colchic. 20 gutt. to 1-2 dr. Syrup. Papaver. 1 dr. Mist. Camphor. 1 oz.—M.

The wine of colchicum prepared from the seeds is milder than that from the roots, though the latter is more efficacious. The Dover's powder, if the colchicum do not agree, is a good substitute; more particularly the original formula of Dr Dover, which is as follows:

"Take of opium one ounce; salt petre and tartar vitriolated, each four ounces; ipecacuanha, one ounce; liquorice, one ounce. Put the salt petre and tartar into a red hot mortar, stirring them

with a spoon till they have done flaming; then powder them very fine; after that slice in your opium; grind these to a powder, and then mix the other powders with these. Dose, from forty to sixty or seventy grains in a glass of white wine posset, going to bed. Cover up warm, and drinking a quart or three pints of posset drunk while sweating." *See Dawson on Rheumatism.* No "*flaming*" takes place in the above process, as we might indeed suppose from the nature of the salts. The proportion of opium in this preparation is as 1 to 11; in the formula of the Pharmacopœia, as 1 to 10; but the dose here directed is much too large.

Next to opium in the experience of Scudamore, the lactucarium is the most agreeable and useful preparation. Henbane, conium, &c. do little good.

Sometimes opiates, from irritability of system, from inflammatory habit, or idiosyncrasy, cannot be given, then small doses of aperient medicines and local bleeding will succeed; a glyster of 20 or 30 drops of laudanum, Scudamore praises as being often very successful. In cases of high inflammation, water gruel drunk freely with 2 drachms of nitre in each quart, taking 10 drachms or more in twenty-four hours, as advised by Dr Brocklesby, is a plan which will be found useful. With regard to the use of bark which has been advised by Dr Haygarth in the dose of 5, 10, or 15 every two or three hours, it may be remarked that all fever must be absent; and it can be only in the intemperate or those of lax debilitated constitutions that it can be tried. In the experience of the most dispassionate, it has in highly febrile cases failed. With regard to the temperature, from 60 to 65 deg. is about right; much clothing is not proper, and where the state of action admits of it, Sydenham's plan of sitting up is proper. A diet of whey alone or the lightest gruels are found to be the best.

After leeches Dr Scudamore recommends his lotion of two parts of alcohol and one of camphor mixture, applied tepid by means of several layers of linen, and over them a piece of oiled silk, extending beyond the linen, and not applied tight so as to heat the parts, but laid on loosely with the view of retarding the evaporation. Motion of the joints daily, and frictions with camphorated liniments, will complete the cure. These may be assisted by friction and exercise when the limbs ache, as they often do in the morning; by sulphate of quinine, in infusion of roses; decoction of bark in the elixir of vitriol; by some preparation of sarsaparilla; walking several miles a day in good weather, or light labour.

On Rheumatic Metastasis.

Of these the most dangerous is the translation to the heart:

"The chief symptoms of this alarming malady, are, a hard and and rapid pulse, rather small than full, and sometimes attended

with irregularity; the breathing hurried and anxious; palpitation of the heart, with occasional pain in its region; some cough; a distressed countenance; beating of the carotids; the highest state of nervous irritability. The patient lies on his back, a little inclined to the left side, with his head raised, and dreads the least movement of the body; suffering at the same time great agitation of mind, and a restless desire of improving his position."

Sometimes the pulse is so rapid that it cannot be counted for many days: the pain does not always leave the limbs, but continues shifting about for many days; it is followed sometimes by dropsy as convalescence is established, as also palpitation, which has been relieved by a rigid adherence to a milk diet. It attacks young persons most commonly.

After death the heart is found unusually pale, sometimes enlarged, adherent to the pericardium, very soft and tender in its texture. Sometimes the inflammation is chronic, and is attended with hectic; frequent, irregular pulse, a cough and anasarca, are also symptoms. Sometimes the disease, when suddenly induced by exposure to wet, is introduced by a breathlessness, choking and death like feeling, with frequent palpitation, which is preceded by a gnawing pain in the heart, and a sense of suffocation on taking exercise: the heart in such cases has been found enlarged: generally the palpitations are most violent when the rheumatic pains exist in the limbs; and often when the patient is entirely well of rheumatism there is no disturbance of the heart whatever. In the more violent cases an actual inflammation of this organ exists, with a secretion of fibrine on its surface; the pulse has been known in one instance to be from 250 to 300 in a minute, the beats distinct and strong. It is often vibrating without great strength.

Treatment.

Copious bleeding till syncope or the pulse becomes soft, by the arm and leeches over the heart; then a blister in the same situation; tartar emetic, and digitalis, given in a saline draught every two or three hours; rest, small doses of calomel to keep the bowels open; fomentations by clothes wrung out of hot water, applied to the limbs, with brandy, and flannel to the rheumatic parts particularly; blisters and sinapisms also, are the best plans; as soon as the pulse is reduced sufficiently, of which its softness is the best evidence, bleeding must be refrained from as it renders the heart morbidly irritable. Adhesion of the heart to the pericardium, with the exception of a slight weakness of the pulsations of the auricles, produces very little effect: and when the adhesions have not taken place, a sero-purulent fluid is generally the result.

Chronic Disease of the Pericardium.

When it arises slowly and insidiously, and in a chronic form without any inflammatory affection preceding, bleeding in general will be of no use; it may indeed do harm as it will increase the general irritability. Local bleeding by cups or leeches will be more proper; a seton over the region of the heart, or blisters of a moderate size; opium, conium, hydrocyanic acid, lactucarium, extract of henbane, will also be useful. The diet must be extremely low, as gum arabic, rice, bread, whey, skimmed milk; and sparing in quantity; all active exercise should be avoided; riding in a carriage will be most advisable. Quiet of mind, and if necessary almost total rest of body; the air of the country in a mild and dry situation is to be preferred to that of the city; damp and cold should be particularly avoided. The translation of rheumatism to the heart we have seen ends in hypertrophy of that organ. Laennec's plan of frequent small bleedings, rigid diet, diuretics, changing the kind frequently, also succeeds very well. Hydrocyanic acid, or what is equally or more valuable, an infusion of fresh leaves of cherry laurel in water; it is better than the acid, which changes often by exposure to air and light. Digitalis is objectionable as it excites the pulse for the first few days; if it could be introduced into the system gradually, in small doses, it would be more effectual; as a diuretic in these cases, Laennec speaks of it highly; and more particularly as in a few days it has great effect in depressing the pulse.

Dr Scudamore then quotes a case of ascites, with which a disease of the heart was united, which was cured by a drastic purgative, which produced more than twenty alvine evacuations, with abundant urinary discharge. Elaterium, he thinks, is the best and most effectual remedy for dropsy; given in the dose of half a grain, with the oil of cinnamon and the powder of jalap, it has a most excellent effect; it should be repeated according to the strength of the patient.

Translation of Rheumatism to the Dura Mater.

If constant delirium be present, which in rheumatism is very rare, the most energetic means, as bleeding from the jugular, leeches to the temples and scalp, and if the pulse be full and hard, bleeding from the arm will be proper; at the same time we must take care not to confound with it the delirium produced by opium. Removal of the hair, pounded ice in a bladder to the head, and if the phrenitic symptoms are moderate, three parts of the camphor mixture and one of alcohol, or ether applied to the head will be proper. Blisters to the legs will have a good effect if the rheumatism have ceased in the limbs; these with the colchicum, combined with carbonate of potash, sulphate of magnesia, and distilled water or syrup, will be useful. Occasional doses of calomel to keep the bowels open should be used; avoiding narcotics as long as the inflammatory

action prevails; and when that is subsided it will be necessary to overcome the irritability of the nervous system by extract of poppy, the sedative liquor of opium, henbane, or Dover's powder.

In the case of translation to the diaphragm, copious and immediate bleeding is required; with leeches over the epigastric region, and blisters to the part from which it was translated or in which it was more violent previous to the attack in the diaphragm. Leeches to the scrotum have been very useful, with blisters to the hip, when it has been translated from the latter to the former part.

On Rheumatic Inflammation of the Eye.

It usually affects only one eye; if the eyelids be examined they are found slightly swelled and little more injected with blood than usual. The pain is rather dull than agonizing and attacks first the head, temples, ear, or jaw; coming on in fits, particularly if the head be bent downwards; the scalp is sensible to the touch; the paroxysm is remittent, attacking at four in the afternoon, or later, and going off in the morning: light does not produce pain as it does in common ophthalmias; and the pain is rather a sense of fullness and distention than acute. It is always attended with sympathetic fever, and in every respect it appears to be a general disease.

The treatment of Rheumatic Ophthalmia.

In the first stages if the patient be bilious, purges are to be freely given, and sudorifics if the skin be dry. Cinchona Mr Wardrop considers as a specific in this malady; turpentine either singly or combined with rhubarb also does great good. Mercury used so far as to produce ptyalism aggravates the complaint. Evacuation of the aqueous humour, and after the operation, warm fomentations to the eye, and if it continue irritable the vinous tincture of opium, are found to be valuable in the advanced stages. Local bleeding does little good in this complaint, excepting where there is a great tendency to plethora with a full and hard pulse; indeed so little advantage attends the use of venesection in this disease that Mr Wardrop considers this circumstance as a diagnostic.

It may be observed, that the eye like other parts of the body may be involved in any general diathesis which may prevail, as rheumatic, catarrhal, &c. and must be treated accordingly; though Mr Wardrop did not find bleeding useful, others have succeeded with it, in a form which is regarded as a variety of the catarrh. Then calomel and opium till salivation is produced; local bleeding, Dover's powder; blisters behind the ear, to the temple and to the nape of the neck; local frictions with laudanum, and the vinum opii diluted and dropped into the eye twice or thrice a day has been found to be useful, after the active inflammation is removed; before this time, no local means are of any use, in the catarrhal variety.

The pupil of the affected eye should be kept under the influence of belladonna by smearing the eye brow and the eye lids every evening at bed time. Bark is recommended in the chronic stage, and Fowler's solution in the dose of ten drops thrice a day also suits very well the catarrhal form; however with regard to all these remedies the diathesis changes very much according to the season, and it is left to the acute and discerning practitioner to discover what the character of the disease is, whether inflammatory, typhus, rheumatic, catarrhal, bilious, &c. and according to the general prevalence of either he may determine what kind of remedy to use. In this view the surgeon will learn much from the experienced physician: and without attending to the general prevailing constitution, neither will be able to do much good.

Mr Scudamore thinks that cups to the temples have done much good; the poppy fomentation has also effected great relief; a cold solution of the acetate of lead with a little spirit, applied by a layer of linen, has been useful. Purgative and then alterative doses of calomel, with James's powder at night, united with a little opium, have done good, particularly combined with the draught composed of the vinegar of colchicum, sulphate of magnesia, carbonate of potash, carbonate of magnesia, and tartarized antimony with as much lemon juice as will neutralize the potash, combined with distilled water and syrup, as before mentioned. Bark with the Fowler's solution, in the convalescence Dr Scudamore has also found to be valuable.

(To be continued in our next.)

Abstract of Foreign Medicine.

PATHOLOGY AND THERAPEUTICS.

Hepatic Abscess. Dr Graves of the Dublin Hospital.—A case of hepatitis, ended in abscess, as evinced by hectic, &c. weight in the side, which was enlarged and harder than natural, also tender and painful on one spot, corresponding with the centre of the external elevation; poultices, &c. were applied, but there was no tendency in the abscess to point outwards; the situation of the abscess was quite uncertain, and therefore an operation would give but little chance to the exit of the matter: it was determined, however, to make an incision nearly through the parietes, and dress the wound with lint, with the hope, that the irritation might extend the inflammation and ulceration, and thus gradually the abscess would open outwardly. It had the desired effect in two days after; matter was discharged from the wound on sneezing.

Rheumatism of the Temporal Muscles causing Inability to open the Mouth.—I have seen two cases occurring in persons subject to other rheumatic affections, in which during one attack the rheumatism seemed confined nearly to the temporal muscles. The natural consequence of this complaint was inflammation and contraction of these muscles, and elevation of the lower jaw, the latter being so firmly pressed against the upper jaw that no food except in a very fluid state could be introduced.

This affection was unattended by any constitutional derangement, but caused much uneasiness in the minds both of the patients and their friends, being by them confounded with lock-jaw. A similar error was committed also in a case where the contraction of the muscle arose from inflammation, the consequence of local injury.

In rheumatism of the temporal muscles the pain and tenderness are greatest just above the zygoma. Its cure is easily effected by the application of leeches repeatedly to the affected part, and by the internal use of anti-rheumatic remedies.—*Med. Recorder, No.* 40, *quoting Dubl. Rep.*

Colica pictonum has been treated by Dr Graves by strong tobacco stupes to the belly till the peculiar effects of tobacco are produced with the best effect. Strychnine has also been used in the palsy from lead.—*Ibid.*

Gelatinous Stools.—Two or three table spoonsful of muco-gelatinous matter were discharged by a patient who had had the dysentery; a sudden call to stool with bearing down preceded it. One twelfth of a grain of strychnine twice a day completed the cure in a few weeks. Many other remedies had been tried in vain. Narcotics combined with tonics and astringents are the most favourable class. Hyoscyamus greatly assisted the cure.—*Ibid.*

Peculiar Ulcer of the Eyelids.—It is slow, being two or three years in its progress, sometimes twenty; there is little pain, and what there is appears to be the

result of ulceration of the nerves or exposure to the air; the patients are cheerful and enjoy themselves to the last. An old cicatrix, a tumour below the skin irritated by the nail, a contusion from a blow, appeared to be the exciting causes in the three cases detailed by Dr Jacob.

This disease may be observed under two very different conditions, either in a state of ulceration, or in a fixed state, in which no progress is made towards healing. In this latter condition the parts present the following appearances: the edges are elevated, smooth and glossy, with a serpentine outline; and are occasionally formed into a range of small tubercles or elevations: the skin in the vicinity is not thickened or discoloured. The part within the edges is in some places a perfectly smooth, vascular, secreting surface, having veins of considerable size ramifying over it; which veins occasionally give way, causing slight hemorrhage; in other places the surface appears covered by florid, healthy-looking granulations, firm in texture, and remaining unchanged in size and form for a great length of time. The surface sometimes even heals over in patches, which are hard, smooth, and marked with the venous ramifications to which I have alluded. This healing may take place on any part of the surface, whatever may be the original structure: in the case from which I have had the drawing made, the eye-ball itself, denuded as it is by ulceration, is partially cicatrized over. When the ulceration commences it proceeds slowly, cutting away all parts indiscriminately which may be in the direction in which it spreads: the surface in this state is not so florid, and presents none of the glistening or granulated appearance above noticed: the pain is generally greater at this period. It appears also that there is a tendency to reparation, exclusive of the cicatrization which I have mentioned: there is a deposition of new material, a filling up, in certain places, which gives a uniformity to the surface which should otherwise be very irregular, from the nature of the parts destroyed. When the disease extends to the bones, they sometimes exfoliate in scales of small size, but more generally they are destroyed, as the soft parts, by an ulcerative process. The discharge from the surface is not of the description called by surgeons unhealthy or sanious, but yellow, and of proper consistence; neither is there more fetor than from the healthiest sore, if the parts be kept perfectly clean, and be dressed frequently. There is no fungous growth, nor indeed any elevation, except at the edges, as already noticed, and even this is sometimes very inconsiderable. There is no considerable bleeding from the surface, and when it does occur, it arises from the superficial veins giving way, and not from sloughing or ulceration opening vessels: sometimes the surface assumes a dark gangrenous appearance, which I have found to arise from the effusion of blood beneath. I have not observed that the lymphatic glands were in the slightest degree contaminated the disease being altogether extended by ulceration from the point whence it commences.

After the preceding description it is scarcely necessary to state additional arguments to prove that the disease is peculiar in its nature, and not to be confounded with genuine *carcinoma*, or with the disease called *lupus* or *noli me tangere*. From the former it is distinguished by the absence of lancinating pain, fungous growth, fetor, slough, hemorrhage, or contamination of lymphatics; from the latter by the absence of the furfuraceous scabs, and inflamed margins, as well as by the general appearance of the ulcer, its progress, and history. It is equally distinct from the ulcer with cauliflower-like fungous growth, which occasionally attacks old cicatrices.

It remains to be determined whether this disease can be removed by any other means than the knife or powerful escharotics; and from the experience I have had in those cases, I am inclined to conclude that it bids defiance to all remedies short of extirpation. I have tried internally alterative mercurials, antimony, sarsaparilla, acids, cicuta, arsenic, iron, and other remedies, and locally, simple and compound poultices, ointments, and washes, containing mercury, lead, zinc, copper, arsenic, sulphur, tar, cicuta, opium, belladonna, nitrate of silver, and acids, without arresting for a moment the progress of the disease. I have indeed observed that one of those cases which is completely neglected, and left without any other dressing than a piece of rag, is slower in its progress than another which has had all the resources of surgery exhausted upon it. The success even

of powerful escharotics is doubtful. Mary Sherlock, the old woman who has laboured under the disease for twenty-three years, and who is now in the Incurable Hospital, says that "a burning cancer plaster" was applied several times, seventeen years ago, and she has lately had the arsenical composition called Plunkett's Powder applied without any good effect. The gentleman, to whose case I have alluded, had the sore healed, when it was very small, by the free application of lunar caustic, under the care of Mr Travers; it however broke out again, and spread without interruption, until it destroyed the lids and globe of the eye, under which circumstances he, in despair, submitted himself to a popular charlatan, who, bold and fearless from ignorance, gave a full trial to escharotics: he repeatedly applied, what I understood to have been a solution of muriate of mercury in strong nitric acid and in a short time excavated a hideous cavern, extending from the orbitar plate of the frontal bone above, to the floor of the maxillary sinus below, and from the ear on the outside, to the septum narium within; yet the unfortunate gentleman survived, but the disease preserved in every respect its original character. Mr Colles however tells me, that in a case which came under his care before the disease had extended to the lids, he succeeded in establishing a permanent cure by the application of a powerful escharotic, covering up the eye during the operation of the remedy with gold beater's leaf.

Such is the information which I have to communicate respecting this malady: I offer it with the hope that surgeons who have met with similar examples, may be induced to give the result of their experience respecting it. Sufficient has however been ascertained to prove, that when the disease exists in a situation which admits of it, the sooner it is completely extirpated by the knife, or the actual or potential cautery the better chance is afforded the patient of relief from a most distressing and fatal malady.—*Med. Recorder, No.* 40, *quoting Dubl. Rep.*

The Vapour Bath in Tetanus. By H. Marsh.—The vapour bath was applied at the temperature of 90° for six hours, which rendered the paroxysms less frequent and less violent, and the boy after being subjected to the vapour bath for six hours at a time, for many successive days, slowly recovered: active purges were used at the same time.

In a second case it mitigated but did not suppress the symptoms; the boy had not been nourished sufficiently and appeared to die of exhaustion.

Another case, in which it was persevered in for many successive hours daily till the disease was mitigated and at length relieved; jellies, wine, malt liquors were allowed in abundance in this case.

The bath was made by involving the patients in a flannel bag, to which at the lower part a small boiler was attached: under this a spirit of wine lamp produced a copious supply of vapour. Supporting the strength and the application of the vapour bath appear to be the remedies which secured the benefit in these cases. —*Ibid.*

On Bleeding in the cold stage of Ague (Dr Mackintosh).—1. Bleeding in the cold stage will not necessarily produce death.

2. This practice will sometimes cure the disease; at others it will prove beneficial by breaking the chain of diseased action, and rendering the subsequent paroxysms milder and milder.

3. Bleeding in the cold stage, in every case in which it has been yet tried, has cut short the cold fits, and has prevented the subsequent stages of the paroxysm, so that the hot and sweating stages are saved. It seems to operate by anticipating the natural efforts of the constitution, removing the internal congestion, and restoring the lost balance of the circulating system.

4. It promises to be most serviceable in severe autumnal intermittents; and more particularly in the pernicious and malignant fevers, as they are termed, of Italy, Holland, and other marshy countries, which are well known to be very fatal under the ordinary treatment. In these cases the reaction of the system cannot fully develop itself, in consequence of the extent to which internal congestion has taken place, and which this practice will remove.

5. It may be used with safety in any climate where the cold stage continues long and threatens danger.

6. Bleeding in the cold stage is, at all events, more successful than in the hot stage, or than in the intervals. For although I have often seen bleeding used in such circumstances, and with advantage, by mitigating unpleasant symptoms, yet I have never known the subsequent paroxysm prevented by it.

7. The practice may be adopted in the first stage of all fevers; and probably will be found useful by surgeons in concussion of the brain.—*Johns. Journ.*

SURGERY.

Calculus in Sailors scarcely ever occurs from the excessive perspiration produced by their confined situation between decks: Sir A. Cooper, Mr Cline, Sen. Sir Everard Home, all confirm this statement.

Lumbar Abscess.—Mr Hutchinson has treated this disease with success by letting out the matter with a lancet and injecting lime water.

New Cataract Needle (Dr Arthur Jacob).—The operation may either be performed by introducing the needle behind the iris, thus cutting through the sclerotica and retina, and risking a wound of the iris, the ciliary processes, and the ciliary nerves—or the needle may be introduced anterior to the iris, through the cornea, a part which will readily heal, and where these dangers cannot possibly be anticipated. Dr Jacob is decidedly in favour of this latter mode of operating. Dr J. expresses his conviction, (the result of extensive experience,) that it is not necessary to cut up the lens, and *deposit the portions thus divided in the anterior chamber;* he considers it all sufficient to make a free opening in the capsule of the lens, puncture or divide the lens, and then leave it to the action of the aqueous humour, which will have free and ready access to it.

For making the opening into the cornea, all the needles now in use are extremely imperfect: with a view of obviating the difficulties attendant on them, says Dr J., "I determined to try a fine sewing needle curved at the point, and after about forty operations, I do not feel in the least inclined to repent of my choice. It rarely, if ever, leaves even the slightest mark in the cornea. I could produce examples where it has been three times introduced, and where not the slightest speck can be detected; and I have introduced it through the very centre of the cornea without any bad consequence. When fairly introduced into the eye, it is capable of accomplishing any object to be attained by a needle. The capsule can be opened to any extent: a soft or friable lens can be actually broken up into a pulp, by pushing the curved extremity of the needle into its centre, and revolving the handle between the fingers: large fragments can be taken up on the point of the needle from the anterior chamber, and forced back out of the way of the iris, or if sufficiently soft, may be divided by pressing them against the back of the cornea with the convexity of the needle; a method which I have repeatedly adopted with advantage. When the lens has been displaced from the capsule, in consequence of the needle sticking in it in attempting to open its texture, I have, without removing the needle, placed the lens in the anterior chamber, and then extracted it; and in other cases have forced it back into the vitreous humour, out of the reach of the iris. From the fineness of its point, and the ease with which it can be turned and twisted in every direction, it enables the surgeon to deal most effectually with an opake capsule; he may pick it with the point from any attachment it may have formed to the iris, or if it hangs flaccid he may entangle and detach it by pulling or twisting. In certain cases the pupil is found nearly closed, and adhering to a small cataract of nearly cartilaginous hardness; in these I have introduced the needle, and with the point picked up the adhesions between the margin of the pupil and this hard mass, which I have then placed in the anterior chamber, and removed through an opening in the cornea, with a pair of forceps.

"There is one difficulty attending the use of the round needle; it requires very considerable force to pass it through the cornea; so much indeed as frequently to embarrass those who use it for the first time. I can however safely assert, that

very little practice enables the surgeon to surmount this difficulty. It is only necessary that he should be aware of the degree of force required, that force he is perfectly safe in employing. The greatest advantage in the use of the needle results from the very circumstance which causes the difficulty in its introduction, it is from its conical form firmly wedged in the cornea, prevents the aqueous humour from escaping, and in consequence of being thus fixed, gives the surgeon a power of holding the eye that defies every effort on the part of an unruly patient, unless he actually pluck out the instrument with his hand.

"The size of the needle is known in the shops as number *seven*, being the forty-fourth part of an inch in diameter, about one-half the size of the finest Saunders's needle which is made. The point can be turned to the requisite curve by means of a pair of cutting forceps, or the ward of a small key: of course without heat, which would destroy the temper. It must not however be expected that all needles are so soft as to be bent thus cold: there may not be ten in a hundred of this temper, but when once turned they retain the curve without any danger of bending or breaking, and certainly possess a degree of strength and temper never observed in needles separately forged and finished by the best cutlers. They should always be tried before use by passing them repeatedly through thick calves-skin leather. After they have received the requisite curve, the point should be cut flat on each side, on a fine hone, and carefully examined with a magnifying glass to ascertain that it is perfect. The extent to which the point should be curved may be left to the choice of the surgeon, reminding him that the greater the curve the more effectual the needle will be when introduced, but the difficulty of introducing it through the cornea will also be greater. I therefore recommend those who use it for the first time to choose one slightly curved. After the point has been turned, the needle, held in the jaws of a pair of pliers or a vice, is to be run down into a cedar handle, without cement, leaving only *half an inch* of blade, which I have found to answer every purpose. If the blade be left longer it will yield and spring when opposed to a resistance. The handle should be about a fifth of an inch in diameter, and four inches long I use the handles made for camel-hair pencils, and find that a metallic ferule, which increases the weight, is unnecessary and objectionable. A needle thus constructed, and preserved free from rust, will retain its point for a great length of time: I have used the same one a dozen times without sharpening."

Dr J. is not particular at what point of the cornea he passes the needle—when it is brought into an advantageous position, he suddenly strikes it in, as near the circumference as possible. When its point is once fastened in the cornea, the surgeon has complete command over the eyes; no action of the muscles, says Dr J., can disengage it, and an elevator or ophthalmostat is therefore altogether useless.

The needle should be introduced with the point down and the convexity up, observing that the flat is kept to the iris, otherwise it is liable to be injured. Should its point pass through the iris, it may easily be extricated by gently drawing it back, without removing it from the eye. The needle being fairly introduced, the surgeon turns the point directly back, gently tears open the capsule, picking and scratching the surface of the lens with a rotatory or drilling motion of the instrument: not with the lever or cutting movement of Saunders's or Adams's needle. If the lens be soft and friable, the fragments fall like snow into the anterior chamber, and the surgeon may push the needle deep into its structure, and twirl the point round so as to mash it into a pulp; if it be hard, however, and the surgeon attempts to deal with it thus, the needle becomes fixed in its tough structure; it is borne from its capsule, dragged against the iris, and must either be extracted or pushed back into the vitreous humour. In hard lenticular cataract, therefore, the capsule should be opened, and the centre of the lens cautiously scratched with the point of the needle, so as to be exposed to the action of the aqueous humour, by which it will be softened and fitted for breaking up on a future occasion.—*Med. Recorder, No.* 40, *quoting Dubl. Rep.*

Omission of Ligature in Amputation (Dr Koch, of Munich).—Notwithstanding the researches and experiments of surgeons and physiologists, respecting the spontaneous cessation of hemorrhage from divided vessels, much uncer-

tainty and much contradictory opinions still remain. The author of this paper thinks that *timidity* has tended to keep us in ignorance on some points of importance. There are very few who will amputate a limb, and fearlessly trust to nature for the security of the cut vessels. *The author's father, Director of the General Hospital of Munich, has not tied a single artery in the various amputations which he has performed for the last twenty years.* To this wide range of experience, the son has added his own, in corroboration of the opinions of his father and of himself, respecting the imaginary danger of leaving vessels untied in amputations.

Arteries, says he, when cut and not tied, remain entirely open, up to the place where they are divided:—The canal of arteries tied in the usual manner remains open also to the spot where the ligature is applied, and their parietes do not unite at this spot. These observations were repeatedly made by the author's father on dead bodies, where the arteries had been cut by him, or tied by other surgeons, many years previously. He always found the diameter of the vessels that had *not* been tied, contracted as they approached the place of section, but the parietes never adherent till the artery ended in a kind of cicatrix. These things are seen in numerous preparations by the author, in the anatomical museum of Munich. The vessels that had been tied presented the same appearances, except that, at the spot, where the thread had been applied, there was a narrowing, but never an obliteration of the canal of the vessel.

In a disarticulation of the hand, the surgeon had tied the radial artery, and omitted to tie the ulnar, as it did not bleed. The ligature came away on the 8th day, and on the succeeding day the patient died. On examination, the terminations of the two arteries were so similar, that it was difficult to say which of them had been tied by ligature. Both extremities were perfectly pervious—the radial artery appeared to be slightly torn at the termination.

In numerous experiments on dogs, our author could perceive no difference between the arteries that had been tied, and those that were left to nature. Thus, he tied the femoral artery of a dog, and cut the vessel below the ligature, without hemorrhage. The wound was closed and healed. A month afterwards he killed the animal, and found the upper and lower extremities of the vessel were completely similar, each being united to an external coagulum by an open mouth.

The formation of a coagulum takes place in some, but not in all cases. But it produces the same effects in the vessels which are tied, and in those which are cut, and not tied. In ligatures of arteries, the internal coagulum is often found in connection with the external, so as to fill exactly the orifice of the vessel. The coagulum is rarely adherent to the internal parietes of the vessel, and never completely so up to the nearest anastomosis. An amputation was performed at the hip-joint, and the crural artery was tied. The ligature came away on the eleventh day, and, on the fourteenth day, the patient died. On dissection, a clot was found plugging the artery, but the canal of the vessel was open. In a very few cases indeed was the bore of the artery found obliterated after the ligature, by adhesion of the sides of the vessel.

"No doubt," says the author, "that most surgeons will stare when I propose the general abandonment of the ligature, as the means of preventing hemorrhage, especially in amputations. They will be still more surprised when I assert, that by this omission of the ligature, the most certain means are taken to obviate effusion of blood. Yet this assertion rests on the basis of experience, and can be testified to by all those who have witnessed my father's operations in a public hospital for twenty years past."

Dr K. appears to think that the spontaneous cessation of hemorrhage from a divided vessel depends *chiefly* on some change in the blood itself—partly in retraction of the vessel. The coagulum he considers as the *effect* rather than the *cause* of this cessation of hemorrhage. This last conclusion appears plausible; for it is hard to conceive that coagulum can form *during* hemorrhage—and if it form after the cessation of the flow of blood through the orifice of the vessel, it can hardly be viewed in the light of a *cause* of that cessation. All that can be said in this case is, that the coagulum may prevent subsequent hemorrhage; but this our author denies.

"The application of the ligature," says he, "in disturbing the spontaneous cessation of the hemorrhage, acts in a manner quite opposed to the end in view. It produces, it is true, a mechanical and temporary obliteration of the bore of the artery, but this is inferior in value to the natural retraction of the vessel, and spontaneous cessation of the hemorrhage."

This spontaneous cessation is to be aided, or rather promoted, by pressure on the trunk of the vessel leading to the part, and a gentle degree of the same on the face of the stump, either by the hand or by a proper bandage. By these means the stasis of the blood is promoted, and protection from future hemorrhage secured.

The method pursued by Dr K. and his father in amputations is as follows:—After dividing the soft parts and bone, the surface is sponged, and the muscles and integuments brought neatly into contact, and retained by adhesive plaster, so as to secure adhesion by the first intention, if possible. *During* the operation, the vessel is compressed by the fingers of an assistant, and *afterwards*, the pressure of the fingers is rendered unnecessary by the application of a compress, laid along the trajet of the main artery, secured by a roller. The patient is then placed in his bed, and the stump kept elevated, and an assistant is directed to make gentle pressure on the face of the stump for an hour or two—or longer, if he feel considerable pulsation in the part. "When this pulsation has ceased, and when the dressings appear tinged red by the exuding lymph, all danger of hemorrhage is considered as at an end, provided the patient keeps quiet. Presently, the exudation of lymph ceases—and the dressings become quite dry and cold." The patient generally passes the first few days without fever, on which account he is allowed wine, coffee, and other food, which dare not be given under other circumstances. No opiates or medicines of any kind are usually exhibited after the operation. About the fifth day, there is generally some traumatic pyrexia evinced, owing to the suppurative process going forward in the wound; but it requires no particular treatment. A moisture taking place on the dressings about the seventh day, indicates the establishment of suppuration; but if the dressings keep dry, union by the first intention is sure to have occurred. Whether suppuration or adhesion has taken place, the dressings are never removed before the tenth day, or even later, unless violent inflammation or hemorrhage should arise. They consider that the adhesion of the integuments and muscles is never properly consolidated before the tenth or twelfth day, and, therefore, that mischief is done by too early a removal of the dressings.—*Med. Chirurg. Rev.*

ANATOMY.

Section or Ligature of the Pneumo-Gastric Nerves, (Professor Mayer, of Bonn).—In a series of experiments, the above mentioned Professor endeavoured to ascertain the cause of death from section or ligature of the pneumo-gastric nerves. He chose the latter mode of experimenting in general, because the death was then more gradual, and the effects of the ligature more easily ascertained. By these experiments, he thinks he has refuted the conclusions to which Dr Philip came, respecting the influence of these nerves on digestion. But the Professor is evidently unacquainted with the discovery which Dr P. made, and which we ourselves witnessed, that mere section of the nerves, without separating considerably their cut extremities, was insufficient for the interruption of digestion. The nervous influence was still transmitted along the divided nerve, if the extremities were left in contact, or nearly in contact. The mere ligature, then, of the par vagum, would be attended with a still greater vitiation of the experiment, as far as digestion was concerned. It is interesting, however, to observe the phenomena produced by the interruption of nervous energy in other organs and parts, besides the stomach.

The following are the results of numerous experiments:—

1. Professor Mayer always observed that when death took place some considerable time after the ligature of the nerves, there were found in the heart and lungs those white coagulations formerly called polypi. These concretions occupied the cavities of the heart, and also the arteries and veins of the lungs. Wil-

lis, Baglivi, and others, indeed, had noticed the same phenomenon, but did not attach sufficient importance to it. These coagulations are soft, and of a black colour, if the death take place suddenly after the operation—that is, within ten or twenty hours. If death do not take place till after 40 hours, the concretions are white and like polypi. It is to these formations that the Professor attributes the death of the animal, by interrupting the circulation. The nervous influence being withdrawn, or greatly diminished, the blood loses its fluidity, and begins to coagulate and become decomposed, as if it were out of the body. Hence we may conclude that the fluidity of the blood is owing to nervous influence. These facts, Professor M. thinks, may tend to throw some light on the nature of asthma, which is probably owing to a temporary diminution of nervous energy, and consequently to an incrassation of the blood in the lesser circulation.

2. Another frequent, but not constant accident, which takes place after the ligature, is the entrance of alimentary matters rejected from the stomach into the trachea, from the relaxed state of the glottis. This accident generally destroys life very quickly. In these experiments an antiperistaltic movement takes place in the stomach, by which the food is thrown up into the pharynx, and there enters the aerial passages.

3. In some rare cases there takes place an infiltration of air under the mucous membrane of the bronchia, from a rupture of that membrane, and an emphysema is the consequence. This accident terminates the life of the animal, by suffocation.

4. A remarkable and constant Phenomenon, which was observed, consists in an antagonism (as it may be called) between the pulse and the respiration. The activity of the heart is often redoubled—while the respiration is rendered much slower than natural. Notwithstanding this slowness of breathing, the temperature of the animals remained nearly stationary.

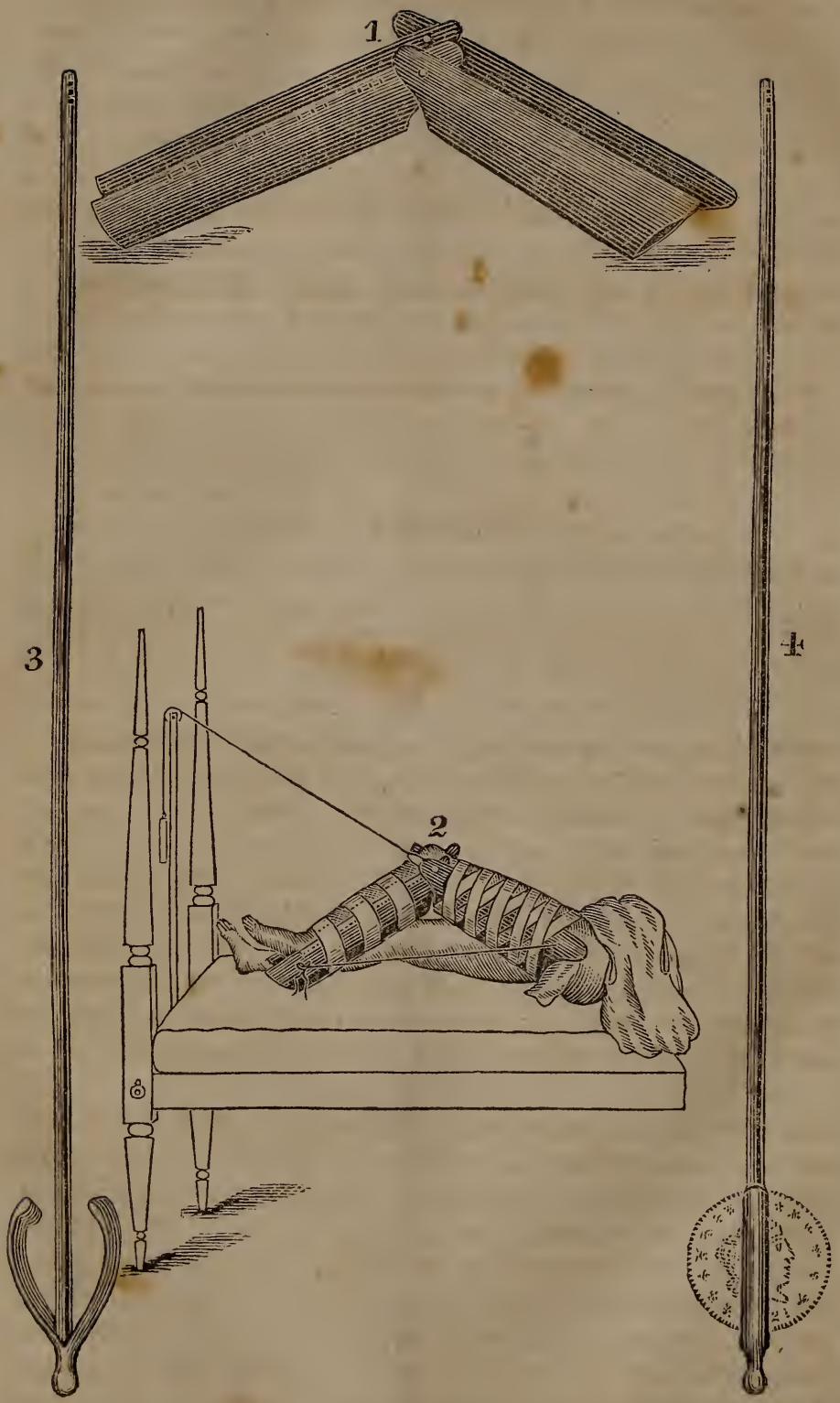
5. In these experiments, the gastric digestion was not interrupted, except where the antiperistaltic action of the organ took place, and consequently where the food was ejected. These experiments, then, were considered as subversive of those of Dr Philip; but, for the reasons already stated, they do not at all affect the results of the English Physiologist.—*Zeitschrift fur Physiol.*

CHEMISTRY.

On the Comparative Nutritive Properties of different kinds of Food.—A very interesting Report on this subject was formerly presented to the French minister of the interior, by M. M. Percy and Vauquelin two members of the Institute, the accuracy of which may be depended on. It may, at this period of public distress, be valuable in those families where the best mode of supporting nature should be adopted at the least expense.

The result of their experiments is as follows:—In bread, every hundred pounds weight are found to contain eighty pounds of nutritious matter. Butcher's meat, averaging the various sorts, contains only thirty-five pounds in one hundred. Broad beans, eighty-nine. Pease, ninety-three. Lentils (a kind of half-pea, but little known in England,) ninety-four pounds in one hundred. Greens and turnips, which are the most aqueous of all the vegetables used for domestic purposes, furnish only eight pounds of solid nutritious substance in one hundred. Carrots, fourteen pounds. And, what is remarkable, as being in opposition to the hitherto acknowledged theory, one hundred pounds of potatoes only yield twenty-five pounds of substance, valuable as nutrition.

One pound of good bread is equal to two pounds and a half, or three pounds of the best potatoes; and seventy-five pounds of bread, and thirty pounds of meat, are equal to three hundred pounds of potatoes. Or, to go more into detail, three-quarters of a pound of bread, and five ounces of meat, are equal to three pounds of potatoes; one pound of potatoes is equal to four pounds of cabbage, and three of turnips; but one pound of rice, broad beans, or French beans, is equal to three pounds of potatoes.—*Edinburgh New Philosophical Journal.*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Essays.

Art. I.—*Observations on Fractures of the Femur, with an Account of a New Splint. By Nathan Smith, M.D. Professor of Surgery in Yale College.*

[The following was published some time since in the American Medical Review, but was probably seen by but few of our present subscribers. We therefore re-print it with a cut.]

In the treatment of fractures, the first object is to place the extremities of the fractured bone in accurate apposition. In general, this is accomplished without difficulty. It sometimes, however, happens that the muscles are so contused, or otherwise irritated, as to become morbidly rigid, and to resist a considerable degree of force although the limb be placed in the most favourable position for the reduction. Under these circumstances, it is with some difficulty that the fractured surfaces are brought in contact with each other. If the position of the limb be injudicious in relation to the action of the muscles, or if the force be suddenly and unequally applied, the difficulty is often insuperable. When, however, the contraction has been overcome by the necessary degree of extension, if the fracture is at all oblique, the muscles will repeat the displacement as soon as the extending force is discontinued; consequently there is indicated the employment of a permanently extending force, a remedy which, from the difficulty that attends the employment

of it, and from the want of tact in adjusting it, is exceedingly equivocal in its results, often defeating its own object, with regard to the limb, and occasioning a great deal of suffering to the patient.

The principal difficulty, then, in the treatment of fractures, is not in the manual operation of reducing the bones to their places, but in keeping them accurately there till union can be effected. This difficulty, however, does not altogether consist in the liability of the limb to be shortened by the contraction of the muscles, but also in the tendency which is there to the other kinds of displacement. The limb, below the fracture, may assume such a position, that the axis of the inferior fragment may not coincide with that of the superior, but may make an angle with it; or the limb may rotate, so that the fractured surfaces shall not correspond. This often occurs in fractures of the thigh, from not properly supporting the foot, which, acting transversely upon the axis of the limb, operates like a lever to rotate it. Or, finally, there may be a displacement of the fractured extremities laterally, occasioned by the unequal action of the muscles, or by the limb not being equally supported.

The liability to these kinds of displacement and consequent deformity will depend, in a great measure, upon the length and weight of the limb below the fracture. It is obvious that the greater the length the more power will the weight of the extremity have to bend the limb, and the less apt will the portion below the fracture be to accompany the part above in those motions which it is impossible to avoid. The nature of the difficulty, in these cases, should indicate the means which are best calculated to remedy it, and hence it is obvious that the most important indication is to employ such an apparatus as shall command the whole limb, so that the part below the fracture shall preserve its proper range with that above, and in the different motions which may be necessary, that the whole shall move as one, the fragments maintaining their relative position in all respects.

Another important circumstance to be attended to is the attitude of the fractured limb, which should be such that, as much as possible, the antagonizing efforts of the flexor and extensor muscles may be made to balance each other. From the neglect of this circumstance, almost every kind of evil to the limb is liable to occur; the muscles will exert an unequal force laterally, tending to lateral displacement, the contractile force to be overcome must necessarily be greater, the application of the extending force can not be made in the direction of the axis of the broken bone, and in addition to all

these, the ease and comfort of the patient, so necessary to the healthy process of union, are greatly impaired.

Another object to be attained is so to contrive the apparatus that the patient may be moved from place to place, or taken from one bed and laid upon another, without injuring the limb, or retarding the cure; for it is no small penalty to be confined on the back for forty or fifty days.

The above are the principal indications to be kept in view. But while we attend to them, there are certain injurious circumstances to be avoided, or obviated, which might frustrate our intentions or give the patient unnecessary pain and inconvenience. The most important of these is injurious pressure. This is often produced in two ways; and first, by the weight of the limb resting upon a small part of its under surface. This cannot be continued for any length of time, even although it rest upon a cushioned support, without producing injurious effects. The softness of the support is too often a circumstance which deceives the surgeon. A little reflection, however, must convince every one that, if the weight of the limb rest upon an inch square of surface, the effect will be the same whether it rests upon eider-down or adamant, provided the surface of the latter be accurately adapted to that of the limb. To obviate this difficulty and source of injury, the support upon which the limb rests, whatever it may be, should be so adapted to the whole under surface of the limb, as to divide the pressure as equally as possible throughout every part of it. If this be done, it will make no difference whether the support be hard or soft, the benefit of soft substances as an easy support consisting entirely in their receiving the weight upon a greater surface, and thus dividing the pressure more equally.

The other kind of injurious pressure, which is often, I may even say generally, produced upon fractured limbs, is occasioned by the application of splints and bandages immediately to the neighbourhood of the fracture, with a view to keeping the extremities in place by means of lateral pressure. This occasions injury by the partial contact of the narrow or flat splints bound tightly to the limb, and which, notwithstanding the compresses which are interposed, gall and chafe it in particular places. The circular bandage, by making pressure entirely around the limb, intercepts the returning blood in the veins, and causes the limb to swell below the bandage; or if the limb be equally bandaged throughout, impedes the healing process to which a free circulation is necessary, or irritates the soft

parts by pressing them upon the fractured extremities, and not unfrequently, by the inflammation and ulceration which is produced, converts simple fractures into compound.

This kind of pressure is employed from a mistaken notion, which prevails too generally, that such bandaging and partial bracing of the limb contribute much to keep the bone in place. If surgeons, who are in the practice of applying bandages tightly around fractured limbs, would take the trouble to investigate the subject, I think they would perceive that such practice can do nothing but mischief. They can not be applied sufficiently tight to prevent the shortening of the muscles without interrupting the circulation, and it is doubtful whether *any* degree of tightness would aid in the least, to effect this object; nor can they contribute at all to prevent displacement of the extremities, if the limb below the fracture is moved from its proper position, or if the limb above the fracture is, by the motions of the body, moved out of its relative and natural position. If, in a case of compound fracture, in which the ends of the bones are in sight, or in which they can be touched by the finger, the surgeon will take hold of the limb below the fracture, while he keeps his finger on the fractured ends of the bone; he will find that, by moving the limb into its proper relative situation with the limb above the fracture, the bones will readily come into apposition; but if he attempts to bring the ends of the bones into apposition by pressing them down with his fingers, he will find it utterly impossible to do it with any force, unless he move the limb below the fracture with the other hand. The weight of the limb is acting against him at the end of a lever which gives it an infinite advantage. For this reason no pressure which the limb can bear without destruction will prevent ends of the bones from being displaced, if the limb is moved out of its proper position. This mistaken idea of the utility of bandages in maintaining the natural form of the limb, and the necessity of them to attach the splints which are commonly used, has led to an unremitted employment of them, which could not fail to be exceedingly injurious, even were they capable for a time of effecting the objects for which they are intended. It is too generally presumed that, when a fractured limb has been once dressed, or set as it is vulgarly expressed, it must remain perfectly fixed till the bones have united; and as it receives its support from the splints which are commonly employed chiefly through the medium of the bandages, there is generally a great unwillingness to relax the support by loosening them; nor indeed can it be done, as the apparatus is usu-

ally applied, without occasioning more or less displacement. There is often, however, a more insidious and much more fatal mischief resulting from this apprehension of relaxing the supports of the limb. The unreasonable fear of unbinding it thus enveloped as it is in the dressings, for the purpose of noticing its condition, is a timidity which has proved the destruction of many limbs and some lives, and almost always occasions excruciating torment to the patient. It is rare that bandages encircling the limb are not either at first applied too tightly, or become so, soon after their application, by the swelling of the limb. To the surgeon a part of the dressings may appear sufficiently loose, while by the unequal swelling of the limb, other parts may occasion and conceal a great deal of mischief.

It is unnecessary that I should speak of the great variety of methods which have been employed to maintain the reduction of fractures of the thigh, in order to point out in them the deficiencies which I have spoken of above. Observation and reflection will, as I think, convince every one that the difficulties which I have enumerated are completely obviated by none of them, and that they are for the most part deficient in the general principles which govern their application. I would particularly, however, call the attention of my readers to that which is now used almost exclusively by scientific surgeons, and which, with its modifications, appears to be regarded, though acknowledged very often to fail, as the *ne plus ultra* of inventions for this particular purpose. I mean the method of Desault. This is so familiarly known that I will not attempt to describe it minutely. The principal object, which this apparatus is intended to effect, is permanent extension. One long splint is essential to it. This, in the original apparatus of Desault, was a flat piece of wood applied by bandages to the outside of the limb, with compresses intervening, extending above the hip and below the foot. Oblique bands were cast between the thighs and over the extremity of the splint, which thus effected the counter extension, while extension was made by passing bands from the ancle and foot to the lower extremity. Short splints were also bandaged to the thigh, and the whole was closely enveloped in dressings. The patient was of course confined to his back, and the limb was made to rest upon cushions throughout its whole length. The above apparatus has been ingeniously modified by Drs Physick and Hartshorne. The former gentleman extended the superior extremity of the long splint to the axilla, in the form of a crutch, with a view to relieving the perineum from the galling pressure of the counter-extending band; the

latter, by employing two long splints, divided the resistance more equally around the base of the limb.

The first objection, which occurs to every variety of this apparatus, is the attitude of the limb, by which an unequal degree of tension is produced in the flexors and extensors. It is obvious, that when the thigh is extended upon the pelvis, and the leg upon the thigh, all the extensors have their utmost degree of relaxation, while the flexors have a corresponding degree of tension. It is said, indeed, that, although this posture is at first painful to the patient as being unusual, yet, when the extension has been continued for a time, the contraction of the muscles is overcome and he ceases to complain. This, however, is only an evidence of what mechanical force can effect, and that the muscles, after the extension has been continued for some time, become paralysed, and their sensibility obtunded. It does not prove that the two classes of muscles, which are thus unequally stretched, exert an equal degree of force obliquely upon the bone; for although their vital contractility may be suspended, we know that the contractility of texture increases with the increased degree of extension, so that although the sensations of the patient do not indicate it, yet it is absolutely certain that an effort is constantly making by the muscles to displace laterally the bones to which they are attached. It is obvious, also, that a greater degree of force will be necessary to give the limb its natural length, than if the muscles are in harmonious relation with each other.

A little reflection must also convince us that, under these circumstances, it is impossible to make the extension precisely in the direction of the axis of the thigh bone; for the force which is applied to the limb below the fracture is communicated to the part which is above wholly through the medium of the muscles, and this will chiefly be done by those which are the most tense. These will be drawn into the line of direction in which the force acts, while the bone, not being equally supported on the opposite side, will be crowded from it. The more nearly the muscles antagonise each other, the more nearly will the extension be made in the direction of the axis of the bone, and *vice versa.*

Another objection to this apparatus is, that the support which it receives from beneath, although it rest upon cushions, is, for reasons mentioned above, necessarily confined to a small part of the surface, and must occasion pressure more or less injurious. Another great inconvenience to the limb and to the patient arises from the support not constituting a part of the apparatus attached to the

limb, and consequently not moving with it, in the different unavoidable motions.

The remarks, which were made upon the pressure of flat, straight splints, and circular bandages, are applicable to this method.

The apparatus which I have used for several years past was designed to answer the general indications of which I have spoken, and was the result of long experience of the difficulties which attend the treatment of fractures generally, and particularly those of the thigh. It consists of two thin broad pieces of wood* so warped as that the concavity of one shall correspond to the convexity of the under surface of the thigh, and the other to that of the leg. The lower extremity of the thigh piece and the upper extremity of that of the leg, are jointed together. This is done by paring out the margin of each of them, in the middle, so as to make them deeply concave. The projecting corners of the extremities, which are thus produced, are applied to each other, so that those of the thigh piece embrace and overlap those of the leg piece, and each pair being fastened together by a pin, performing the office of a pivot, a perfect hinge is produced, which admits of no other motion but flexion and extension. The superior margin of the thigh piece is then pared away, so as to adapt it to the shape of the pelvis against which its circumference rests. Where it presses upon the pubis and the tuber of the ischium, as it may be made to do, it should be bordered with soft leather, and stuffed. The leg piece is to be made longer and larger than the leg, and as its concavity can not be exactly adapted to the convexity of the calf of the leg, this part of the limb is to be slung in the splint, by means of strips of cloth, or leather, which pass across it and hang loosely into its concavity, being attached to one side of the splint by tacks, and on the other by hooks or buckles, which will admit of their being tightened or loosened, as may be necessary, without disturbing the limb. The circumference of the thigh piece is to be a little less at the inferior than at the superior extremity, to adapt it to the tapering shape of the limb. A strap, passing from the upper extremity of the thigh piece to the lower extremity of that of the leg, will enable the surgeon to fix it at any angle that he pleases.

In applying it, there may be laid along under the whole splint bands of firm cloth, long enough to embrace the splint and the limb.

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* Bass is that which I have employed, as being more flexible, and less liable to split than almost any other.

A broad linen cloth may be laid in the thigh piece. The limb is then to be carefully laid in the splint, the size of the one having been adapted to that of the other by measuring the sound limb; the linen cloth may be folded over the limb, and the whole splint then secured to it by overlapping and pinning the bands along its whole length from the hip to the ancle. As the pieces of the splint are flexible, they will be made by the bands to embrace the limb firmly enough, although they may not have been precisely adapted in size. In most instances, in which the limb has been thus dressed, almost every source of irritation being avoided, and the attitude natural and easy to the muscles, I have not found it necessary to use permanent extension. I am confident that the necessity for its use is often occasioned by the apparatus itself which is employed to effect it. Where, however, the fracture is very oblique, and the muscles are disposed to contract and shorten the limb, I have employed a mode of extension, which can be graduated to any degree of force, and which may always be made in the direction of the axis of the thigh bone. It is accomplished by lacing a soft band of leather round the leg, just below the knee, and to this attaching a cord, which is carried in the direction of the bone over a pulley in a stand nailed to the foot of the bed, and which may be lowered or raised at pleasure. To the end of the cord is attached a weight, equal to the necessity of the case. The weight of the body makes the counter-extension, which may be increased, if necessary, by raising a little the foot of the bed.

The reader will readily perceive that, by this apparatus, all the indications which I have spoken of above are intended to be answered. The limb may be placed at any angle which the muscles may require, without at all disturbing the fracture. It is completely protected from hurtful pressure, as it rests upon the whole surface of its semi-circumference, and as it is no where girt by bandages, being protected from their unequal pressure by the splint, suffering them to touch it only on its upper surface. Along the angles of the splint and bandage, there is no pressure at all, so that the blood returns with perfect freedom. The weight of the leg being perfectly commanded by the lower piece, and the limb easily fixed in any position, its control over the fractured extremities is completely obviated. The splint being light, and the whole of it attached to the limb, and the support being the splint itself, there is no difficulty in moving the whole limb as one, or in transferring the patient from one bed to another. The bandages may be at any time relaxed without the least danger of disturbing the fracture, they being only

necessary to secure the limb when it or the body moves. It is to be particularly noticed, as one of the excellencies of this method, that the weight of the limb itself, and the reaction of the hollow splint in which it is lodged, constitute all the force, which, under ordinary circumstances, is necessary to maintain the reduction. It is particularly adapted to compound fractures, which may be examined and dressed, without in the least disturbing the limb, and even although the wound be on the under surface, by cutting away a portion of the splint opposite to it. The few words which are necessary to describe this splint are a sufficient evidence of its simplicity: almost any person can construct it in a very short time. The objections of complication and expense, therefore, which prevent the general use of some others can not be made to this. I do not, however, rely solely upon the theoretical principles which indicate its use. Its present form is the result of twenty years extensive experience in the employment of some modification of it, and I never have seen sufficient reason to induce me to abandon it for any other.

The reader will have no difficulty in forming an idea of the splint and its appendages, by attending to the cut.

ART. II.—*Remarks on the Spontaneous Suppression of Hemorrhage in cases of Divided and Wounded Arteries, with Comments on the Physiology and Pathology of the Circulating System. By Nathan Smith, M.D. Professor of Surgery, &c. in Yale College.*

It will be recollected that in the former part of my observations on this subject I mentioned the case of ossified arteries ceasing to transmit blood as soon as they were divided, though the action of the heart and arteries was strong at the time and that this then seemed a paradox to me. Since that time and from a fact that I once observed I have thought the seeming paradox might be explained. Being present where a young surgeon was amputating the hand at the wrist, in bringing the knife across the inner edge of the radius and not being able to appreciate the force necessary to carry the knife to the bone, or using more force than was necessary, he brought the knife upon the bone with such force that it took out a large gap from the edge, which was not discovered till the operation was fin-

ished, so far as cutting and sawing the bones. The tourniquet was then slacked so as to discover the arteries. The ulnar artery bled freely and was secured, but there was no blood from the radial artery.

On examination it was found dragged out of its natural situation, and when the pulse beat the end of it turned under and the artery behind pushed over it so as to form a cul de sac. I concluded that the gap in the knife came in contact with the artery and tore it off, after tearing it out of its usual situation and by that means paralyzed the end of the artery, which not acting at all the rest of the artery elongating itself pushed beyond it. It is now believed that the arteries do not enlarge in diameter in their systole, but they certainly elongate and if so if a part of the artery remains quiescent during the systole the other part of the artery elongating the artery must double on itself. That is, the portion of the artery which is active will shoot over the end of that portion which remains quiescent during the systole. And in this way the blood was probably prevented from passing through the portion of ossified artery. And it is more than probable that it is in the same manner that the blood is prevented from going into the umbilical arteries of the child after birth: these arteries cease to correspond in their systole with the hypogastric arteries. It is from this circumstance that an artery cut half off will continue to bleed, when if cut entirely off it ceases, for when the artery is cut half off, the whole artery continues its action and that will prevent the artery from doubling on itself, for it appears to be a law of the animal economy that when an artery is divided, that portion of the artery, which lies between the point where it is divided and the next considerable branch which goes off from it, ceases to act, as its action would serve no good purpose.

If an artery is divided just where it goes out from another or near any considerable branch, it will continue to bleed like an artery that is partially divided.

A surgeon tied the crural artery for an aneurism on the thigh. He thought that he had tied it above the point where the profunda femoris goes off from it, but unfortunately tied it in the fork of the two arteries, and when the artery became divided by the ligature the man bled to death. In this case when the crural artery was divided, it made a breach in the side of the profunda, which being left undivided continued its actions.

Respecting the action of the capillaries, and the power lodged in them of attracting blood to themselves to answer the purposes of life, and which has been glanced at above, it appears to be of very

great importance in the animal economy in the case above stated where the external iliac was tied. A coldness was at first produced in the limb which, without any external heat applied, was soon restored, and the heat even exceeded the natural temperature for a time and then fell to the natural temperature. Now this increase of temperature must have been produced by an increase of action in the capillaries of the part to acquire the blood necessary for the support of the limb and when that was accomplished this extra action ceased. Now, if I do not mistake, something of this sort takes place in disease. In that kind of febrile affections which has been called asthenie or ataxie, the action of the heart and great arteries is low and the pulse easily compressed, yet in such cases heat on the surface is great and if we bleed we increase the heat and if we apply external heat and the diffusible stimuli which act especially on the capillaries we increase their action beyond their power of acquiring blood, exhaust their vital power, and kill the patient just as we produce gangrene by applying external heat to a limb where the great artery going to the limb has been tied, or when we apply external heat and stimulants to a limb when the arteries which furnish blood to the part are ossified. This action of the capillaries, which is called forth by the difficulty they meet with in acquiring blood, is one of the many ways nature has provided to ward off injuries and to preserve the system in life; and though it is necessary and useful yet it is sometimes too great and requires to be checked rather than encouraged, as if urged on by powerful means the vital principle is exhausted and entire cessation of action ensues.

Adversaria.

ART. I.—*A Curious Phenomenon resembling Electricity in a Case of Injured Spine. By S. Colhoun, M.D.*

Anderson Garden received an injury of the spine, and when he became the subject of the following observations, was paralytic, from the umbilical region downwards, with incontinence of urine, which came on about three weeks after the accident had occurred and continued till his death. From lying on his back, the integuments sloughed extensively. After some days sensibility returned and also the power of motion. On the back nothing peculiar could be observed, excepting a different colour of the skin, which could be seen at the place of the injury. His urine had a peculiar smell.

One morning, his sores suppurating well, and his health though weak better than it had been, he told me that when he touched any part of his body below the place which had been injured, which was somewhere between the second and sixth dorsal vertebræ, he felt a sudden sensation shooting from the parts touched to his toes, and not in the direction towards the head. The parts from which this peculiar sensation proceeded were those which were paralytic, and those only. The other parts had their natural feeling: the former had that numb and prickling peculiarity of sensation which results from the pressure of a nerve, or as it is usually expressed, the patient said his limbs were asleep. The susceptibility of being stimulated by the touch had entirely left the legs when I touched him last, and I left him to see how long the excitability would be accumulating. I neglected to examine him for some time after. In five days I found that this peculiar quality not only extended to the middle of his back, but up to his head. It was sudden and convulsive; on slightly touching him it produced no effect; but if I pressed my finger with more violence, the sensation flew to his head, but this was the case only when I pressed on the

muscles, and particularly those of the thigh. Pressure on the tendons did not excite them. This peculiar sensibility was greatest after sleep, and after rubbing the muscles two or three times, it left the parts entirely; those parts, however, which were not rubbed still retained it.

In the evening, I pressed upon the knee; then the sensation flew to his head and his feet. The head itself was however not affected. Squeezing the toes also gave him the same sensation; at this time it extended to his brain and gave him an indescribable feeling. In this experiment, the muscles on drawing the fingers along them, lost the power of exciting this peculiar feeling; still squeezing the toes of the same side excited it. The skin also produced this phenomenon on being excited by pressure or rubbing. A few days before his death this peculiarity ceased, and as we had no opportunity of examining his body, we are entirely in the dark with regard to the nature of the injury, or the cause of the appearances above described.

Art. II.—*A Case of Epilepsy. By S. Colhoun, M.D.*

A young woman, who had been subject to epilepsy for many years, applied to me for advice about six months ago. She had an almost constant discharge from her womb of bloody fluid, pain in her right hypochondrium, and occasionally a most voracious appetite, which always preceded the fits; this appetite was introduced by a state of languor, which continued for several days. She then ate to an extent almost exceeding belief, and the fits took place in the course of the next 24 hours. A great variety of plans had been tried by many physicians who had attended her, but without any benefit. Believing the disease to be connected with a deranged state of the digestive organs, I administered an emetic whenever the sickness came on; it removed or prevented the excessive appetite, and she has been perfectly well ever since this plan was adopted, with one exception, in which the emetic was neglected. It appeared after some investigation of her friends that she had had a fall upon the floor; the back part of her head, and the most projecting portion of the occiput were sore always before the fit. There can be no doubt that there may have been some connection between

the injury and the epilepsy. In every view the use of emetics is interesting in this kind of case, whether the state of the head weakened by the old injury and still further debilitated by the excessive eating was the original cause, or the too great desire for food alone. Blows upon the head produce terrible disease of the brain long after they have been inflicted. I have seen a case of mania produced by an injury on the skull upwards of twenty years after it was received. Headaches recurring periodically, I have several times seen from the same cause. There is generally a pain in the seat of the blow, almost always on pressure with the finger, and generally preceding the attack. There can be no doubt that inflammation of the periosteum exists, when this takes place: it is probable that an incision made down to the part might be attended with relief, as it is in the excessive pains which resemble tic douloureux, and which sometimes follow injuries of the head; this plan is recommended in a paper in Sandifort's Thesaurus, and has been since practised with success in this country: the vessels of the periosteum are over loaded, and it is probable that the incision operates by letting out the superfluous blood.

ART. III.—*Case of Fracture of the Femur counterfeiting Dislocation of that Bone.*

In May of 1824, the editor of this Journal was called to ——— Remington of Huntington, in Vermont, who, as was supposed, had dislocated his hip. The patient had received the injury in being overturned in his wagon, which with his load was precipitated upon him from a height of five or six feet. He had received a contusion upon the great trochanter, a barrel of fish having fallen upon it.

The accident having occurred in the evening of the day previous to my seeing him, a neighbouring physician had been called in, who made continued and powerful efforts to reduce the supposed dislocation. The patient complained that much injury had by these attempts been inflicted upon the part. Still, however, the position of the limb was not in the least changed.

On examining the limb its attitude was precisely that which is so uniform in the upward and backward dislocation. It was shortened about two and a half inches; the knee rested on the lower part of

the opposite thigh and the great toe upon the opposite tarsus. From the nature of the injury, I had suspected fracture of the neck ; but the attitude of the limb, (although I could not feel the head), and the continuance of the same posture, notwithstanding the efforts to move it, persuaded me that it must be a dislocation. I was the more convinced of this by the firm resistance to the motion of outward rotation. We had therefore associated in this case every one of those traits which are commonly regarded as sufficiently diagnostic of dislocation, with the exception of the head of the bone felt upon the dorsum of the ilium, and the absence of this was reasonably ascribed to the great degree of tumefaction.

I then proceeded to make extension upon the limb with the aid of assistants, and to impress upon it those flexions which approximate the dislocated head to the acetabulum. On having continued these efforts for a few minutes, I was surprized to find that the attitude of the limb was changed, the foot being turned out, without however an elongation of the whole limb. On attempting then to rotate the limb, an evident crepitation was perceived both by myself and those around, and the nature of the injury became apparent to me. From this moment the limb readily obeyed the rotary effort, and the foot would point inward or outward and remain in that position. The rotation of the trochanter upon a radius less than the whole length of the neck and head was also decisive in regard to the character of the injury.

Associating all the circumstances of the case I gave it as my opinion that the neck of the femur was fractured at its junction with the head, and that the bone then slipping upon the dorsum of the ilium had assumed precisely the position which the bone does when dislocated; and that the portion of the neck attached to the shaft, being of considerable length, had caused the bone to be confined in that situation as when dislocated. On being disengaged, however, from the muscles and extended, it had become obedient to the rotary force.

The fractured bone in this interesting case never perfectly recovered, although I employed, with every precaution, the extending apparatus of Desault and subsequently that of Hagedorn. The patient would not, and probably could not endure the necessary force. This probably was owing to the injury which had been inflicted upon the soft parts, and also to the length of the fragment of the neck pertaining to the shaft of the bone. It is probable that by no means could complete re-union have been effected in this case ;

it being obviously one of peculiar difficulty. In three or four months however, the patient was able to walk, sustaining the weight of his body on the injured limb.

Dr Mussey, the intelligent professor of anatomy and surgery in Dartmouth College, subsequently saw and examined the case at my request. He perfectly agreed with me in regard to the nature of the injury.

The practical deductions from this case are obvious.

Art. IV.—*Value of Vaccination.*

Nearly all the pupils now attending the medical course of the University of Maryland were, a few weeks since, exposed to the contagion of small pox, in consequence of which several sickened at the end of the usual period, most of them exhibiting the symptoms of mild varioloid, the febrile symptoms not generally persisting beyond the third day from their attack and the pustules few and small. There occurred, however, one case of severe varioloid, in character approaching the small pox, and one case of genuine small pox which terminated fatally. On inquiry it was ascertained this individual was the only one of the class who had *not been vaccinated.*

Those who had varioloid had all been vaccinated, but had generally experienced but little constitutional disturbance at the time.

A more full report of this epidemic will be prepared for this Journal at a future period.

Analytical Reviews.

Observations illustrating the Application of Moxa to the treatment of Chronic Affections of the Limbs. By J. Boyle, Surgeon to the Middlesex Infirmary.

This little effort contains something valuable; and as the moxa is not much used in this country a short notice on the subject will not be without interest. The first patient had a painful affection of the anterior part of the leg of about fourteen months standing.

"On examination, a very slight enlargement, occupying a space of four inches longitudinally, and about one transversely, commencing two inches below the tubercle of the tibia, was observable; and the skin exhibited a rather dark or livid appearance. The pain was not constantly regular in intensity, but commencing at irregular periods, first in the centre of the part described, and occasionally quickly shooting to the back of the leg. The parts were not uniformly hot, nor was there that peculiar throbbing sensation which ordinarily accompanies inflammation."

A salivation was used, but without effect. Tumefaction, however, at length appeared upon the surface of the shin bone, evidently shewing that inflammation had commenced. On dividing the integuments with the view of lessening the inflammation in the periosteum it was found that it was as thick as leather. Carbonate of iron; the application of savine cerate to the wound; Peruvian bark, a caustic issue in the line of the pained part, opium, with spirits, camphor, &c. as a wash: all remedies we humbly think well calculated to increase rather than to diminish inflammation on a part already so much inflamed: were used. The pains becoming gradually more severe, convulsions preceded by sickness of stomach came on; these were evidently attributable to the disease of the leg. The part had healed up, when it was resolved to try the moxa.

"The proposal having been acceded to, on the 28th of October, one moxa cylinder was burnt over the most painful part, occasionally, but not always, in actual contact with the skin, the lighted end being uppermost. A soft light poultice was placed over the part, and the patient enjoyed what she had long been a stranger to—a

sound night's sleep; she had no pain for a week after, and then it was comparatively slight. Apprehending its return, however, another moxa cylinder was applied in the manner described; since which all pain has been absent, the appetite is improved, and the patient's strength is already greatly recruited."

Pain, weakness, and slight swelling were felt in the right knee when the patient was about sixteen years old; it was followed notwithstanding the remedies by a gradual increase of the symptoms with stiffness and contraction, the limb being bent to an angle; more particularly the result of a fall which took place about seven years after producing inflammation in the knee; she was then confined to bed for sixteen months with all the usual remedies, and no effect was produced. These plans were blisters, cups, &c. a seton. At the time the moxa was applied, there was no inflammation, and but little motion in the limb, the patella, flexor tendons, &c. being nearly immoveable. The daily employment of moxa, with constant efforts to stretch the limb, was commenced, and another instrument for the purpose of keeping up constant action was also used.

"This latter instrument consisted of two light iron sides, attached at either end by what is termed a garter, which was neatly padded, one for giving support to and acting high upon the thigh, the other for the purpose of acting on the os calcis, and thus forming a long and powerful lever; while, opposite the articulation of the knee, a flat joint subjected the action of all the lower part of the instrument to the constant extending power of a spiral spring, so constructed as to press forward at a force equal to fifty pounds; all being kept in apposition by means of a knee-cap. To prevent the instrument from falling off, a lighted iron stem, with a flat joint opposite the hip, ascended as far as the waist, and was there secured by an elastic belt.

"In a few days from the commencement of the means described, increased motion, as well as diminished size of the knee-joint, and considerable relaxation of the integuments covering it, were the consequence. This improvement gradually increased for the first fortnight, at the end of which time, from over-zeal to effect a rapid cure, swelling and inflammation, requiring rest and the application of leeches and evaporating lotions, took place. This state being in a few days removed, small doses of digitalis and greater caution were resorted to, in order to prevent its return. The same treatment was strictly and daily persevered in, and, at the expiration of three months from the patient's entering upon the above means of cure, the limb admitted of being brought perfectly straight under the genu-rector; the knee and leg had acquired a natural and healthy appearance, and, on standing erect, the heel came in perfect contact with the ground."

Another case is added in which the child went on crutches, the

leg being enlarged and nearly bent at right angles and projecting behind. This patient had had the disease for five years*.

A Physiological Inquiry respecting the action of Moxa, and its utility in inveterate cases of Sciatica, Lumbago, Paraplegia, Epilepsy, and some other painful, paralitic, and spasmodic diseases of the Nerves and Muscles. By William Wallace, M. R. I. A. &c. &c.

Another writer, Dr Wallace, has lately favoured the public with his observations on the disease; he states that "he has had many opportunities of ascertaining the opinions of patients upon the comparative pain produced by moxa, caustic issues, and blisters, and he has 'never met with a single instance in which the moxa, when properly applied, has not been considered the mildest remedy by many degrees.' "

He considers its direct effects as not confined to the skin:

"If an eschar be formed, that eschar extends to the superficial fascia or subcutaneous cellular tissue: and if the moxa be applied through the medium of a needle, in the manner which I shall hereafter describe, the caloric may be made to extent its influence as deep as we please, by the conducting power of the needle. If the caloric, by either mode of application, be made to act on a point of structure which extends itself indefinitely through the limb or part of the body in which it is seated, as for example the cellular tissue, or the neurileme of a nerve, or the tunic of a vessel, it is perfectly consistent with our knowledge of the mode of action of such remedies, to suppose that its effects may be extended to any length along the texture so acted on.

He says it should never be applied in cases where there is increased action, or of active inflammation or subacute inflammation, or in other words, when it is becoming chronic; and when it is applied always where the greatest distress is felt.

In making the moxa, and burning it on the skin, the great difficulty consists in applying the heat in a proper degree.

The following directions are therefore given for making this substance.

"It is formed by immersing either surgeon's lint or fine linen in a filtered solution of chlorate of potash: the solution being made by dissolving one drachm of the salt in four ounces of distilled water. When the moxa is to be used of a small size, fine linen will answer best, but when of a large size, lint is to be preferred. Care must

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* Med. and Phys. Journ. for Oct. 1827.

be taken that the substance used shall be perfectly dry before it be folded up, and in folding it a proper degree of firmness must be given, which experience will soon teach. After the substance has been rolled up and fastened with two or three stitches of the needle, its end should be cut with a very sharp knife, to make it perfectly level, and thus secure its application to every part of the skin upon which it is placed. Its length should be about three-fourths of an inch, and its diameter may vary from one quarter of an inch to an inch.

"The instruments which I use in applying the moxa are of the most simple kind: a porte-aguille which I have invented, or a pair of dressing or artery forceps, furnished with a screw at about three-fourths of an inch distant from their point, which screw serves to press the blades of the forceps very tightly together;—a bit of small, flat, silver wire, about three inches in length;—a bit of card paper;—a blow-pipe; a set of needles; and a small glass tube, are all that are required. With the silver wire a small hoop is formed to grasp the moxa: the size of the hoop being made to vary according to the size of the moxa; and the ends of the hoop are grasped in the forceps, which are made tight on it by the screw with which they are furnished. The hoop should be applied about a line distant from that end of the moxa which is to be placed on the skin; for the purpose of preventing any inconvenience from the hot wire coming in contact with the surface. In fixing the ends of the hoop in the forceps, such an angle or inclination of the moxa with the forceps should be given as will be found most convenient for the exact application of the moxa to the part affected."

In paralysis over the origin of the nerves, and in some cases of obstinate ophthalmia, it has been used with the greatest effect:

"The size of the moxa, the manner in which it should be applied, and the length of time it should be allowed to remain on the parts, are points of some importance.—All these circumstances must be regulated by the depth of the disease, and the nature of the parts, to which we may wish to apply it. It may be used so as not to cause any injury of texture; in a greater degree so as to produce vesication; and in a still greater degree an eschar, and the eschar may be either deep or superficial; or, lastly, it may be employed in conjunction with the acupuncture needle. These different modes of using the moxa may be distinguished by the terms, first, second, third, fourth, and fifth, forms of application."

These different degrees are to be adapted to the intensity of the case. The diseases in which Mr Wallace has succeeded are the tic doloureux, sciatica, lumbago, paraplegia, epilepsy. The first form of applying it will answer when the disease is superficial. When it is applied to the face as in tic doloureux it may be only approached so as to produce a blister, without ulcerating the parts.

"In a large proportion of cases the superficial eschar will be the

best form of application. To produce this eschar, the moxa must be placed on the skin, and allowed to remain on, until the skin appears brown under it; which will, in general, be found to take place when the combustion of the moxa has extended to the distance of about a line from the skin.

"The deep eschar will be required when the seat of the disease is far removed from the surface, as in affections of the spinal marrow and of the hip. To form this eschar the moxa must be allowed to remain on, until its combustion is complete; when the part upon which it was seated will be found black, and the surrounding skin slightly red, and wrinkled. In this form of application, it will be sometimes useful to increase the intensity of the heat by the employment of the blow-pipe; and when this is thought prudent, the moxa should be, previously to its application, surrounded by a cylinder of card-paper, which will have the effect of directing the current of heat downwards, and prevent its escape laterally."

When inflammation is produced by the application of this remedy the application of ammonia as stated by Baron Larrey succeeds in arresting it*.

A Treatise on the Nature and Cure of Rheumatism. By C. Scudamore, M.D. F.R.S. Lond. 1827.

(Concluded from page 40 of last No.)

On the Subacute Rheumatism.

The treatment of this variety, as being of a weaker character, presents little of importance not detailed in the remarks made above. Leeches; the wash recommended above; blisters when the local inflammation runs pretty high, and after it has subsided the application of the warm plasters as that of soap; bandages, flannel, fleecy hosiery, and in summer calico, may be mentioned as we pass along.

The use of guaiacum in large doses, as half an oz. in cases where the lancet is required, is animadverted upon by our author, who administers it as we do in this country in doses of a teaspoonful thrice a day, and where there is no inflammation. There can be little doubt that this remedy may be given in considerable doses particularly in the subacute form, even where the pulse is higher than it should be. The warm bath has done much good; and though the author seems to accord little power to this remedy, there can be no

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* Med. and Phys. Journ. Oct. 1827.

question that it relieves those cases in which there is great susceptibility to cold from long sedentary habits, as in the studious. Combined with exercise, as in travelling, nothing can have a better effect. The gymnastic exercises established lately in this country should be generally practised by those whose business does not supply this necessary of life. They are so calculated as to exert all the limbs in the most happy manner, and I have heard of their use in rheumatism with the most decided advantage. Men of business whose habits have become fixed, and whose minds as well as bodies are enslaved by a system of gain or necessity, which prevents them from devoting a few hours every day to these exercises, should travel to the warm springs in Virginia which they will find of the most decided and unequivocal benefit.

The vapour bath has sometimes an excellent effect; it is recommended by Scudamore to be made portable, so that it can be used in the chamber; all risk and exposure may be thus avoided. After fever has entirely subsided, the shower bath will be most beneficial: beginning with tepid water of about the temperature of from 82 deg. to 85 deg.; and when it is applied of low temperature, the patient may stand with his feet in warm water, and thus the disadvantages of the cold be avoided.

Chronic Rheumatism.

Chronic rheumatism should be more properly called the slow inflammation; it may appear where the acute form had not preceded, and it may be so moderate from the first attack as to deserve the epithet of chronic as its real meaning, (slow inflammatory) imports.

When this disease occurs in a gouty habit, it may be so modified as to deserve the name of rheumatic gout. It is always of importance to determine how far this union occurs, as it must be extremely useful in directing the treatment; the state of the organs of digestion, the habits of living, the hereditary predispositions will all determine the character of the disease. If it has arisen from cold, rheumatism will probably be the form: still it will be much modified by the prevailing disposition. White ropy filaments in the urine, which are pellucid, and when dried turn to a dry calx, are mentioned by Dr Clerk as distinctive marks of the gouty diathesis. It evinces in the opinion of Scudamore a disordered state of the digestive organs, but cannot be said to be exclusively characteristic of the gouty temperament since the urine is so liable to be affected by the state of the mind, by accidental crudities in the stomach, and many other causes which certainly must determine us to be of another opinion.

Chronic rheumatism is more fixed, more rarely attacks the smaller joints than gout, the hip and shoulder being its more frequent seats.

In the opinion of Dr Haygarth the absence of tumour is a sufficient distinction between rheumatism, nodosity, scrofula, gout, and

acute rheumatism; when the inflammation attacks the ligaments, the tendons and the bursæ, more or less thickening always takes place. Swelling, says Scudamore, is only absent in acute or chronic rheumatism, when the affected textures are ligaments not near to the surface, or tendinous fibre immediately belonging to muscle. Aponeurosis, nerve, and periosteum are seldom affected with swelling, in rheumatism.

The nodosity of the joints consists of a swelling of the bones of a joint without fever, inflammation of the integuments or muscles.

Chronic rheumatism may be confounded with general muscular pains, which may be sympathetic of colica pictonum, worms, or arise from intermittents. Wandering pains also proceed from excessive fatigue, exposure, profuse bleeding, bruises, irregular living, long illness; and there may besides be a rheumatism, supervening upon this state of the muscular system, which accurate examination only can distinguish, more particularly with regard to its causes. To distinguish the pains of colica pictonum, it is necessary to be particular in examining whether any improper drinks as water or cider, which have stood in leaden cisterns, or wines adulterated with lead, have been taken. The disorder of the bowels, which is always united with the disease of the limbs, will also assist in distinguishing colica pictonum from chronic rheumatism.

When a pain occurs in the side, if it be increased upon motion of the arm or on pressure on the intercostals, it is evidently rheumatic; on the other hand, as pain between the shoulder blade or of the shoulder at the head of the joint frequently arises from diseased liver and disordered digestion, a careful inquiry into the state of the stomach and secretions will determine this matter.

Nephritis is distinguished from rheumatism by the pain on bending forward occasioned in the latter, and the presence of the peculiar symptoms of the nephritis.

When the mucous membrane of the kidneys is affected with inflammation, either chronic or acute, a pain is felt more or less severely at the upper part of the loin; the patient cannot walk upright; there is pain in walking, which may arise from the increased action of the psoæ muscles. There are present also irritation of the stomach, occasional sickness, copious deposition of mucus in the urine, which distinguish it from lumbago.

The irregular spasmodic pains, which come on during an affection of the spine, will soon be distinguished by the failure of the power of motion in the lower limbs, and also of the functions of the bladder and rectum; the commencement also of the distortion may be discovered by a careful examination of the back.

Chronic rheumatism is distinguished from incipient aneurism, in the region of the loins, by there being a pain on going to stool upon the action of the bowels taking place; and a pulsation above the umbilicus at all times. The pain in aneurism is more constant than

that of rheumatism; the stethoscope should be early used to discover its existence, as there can be no doubt but that the difference of pulsation would indicate the true state of the case.

In syphilitic rheumatism the periosteum of the os frontis, tibia or ulna becomes tender, painful and thickened. Psoriasis guttata is also a frequent attendant on this variety of the complaint.

On the Treatment of Chronic Rheumatism.

The existence of the phlogistic diathesis can only be a sufficient reason for the use of general bloodletting. Sudorifics, as the volatile tincture of guaiacum, or vinum colchici with the acetate of ammonia or Dover's powder, will be useful taken at bedtime, the bowels being kept generally open. If, however, the bowels be loaded, and the digestive apparatus be out of order, the use of active purgatives will be necessary. A moderate salivation sometimes has a most beneficial influence; Fowler's solution, bark in union with turpentine (oil of), have succeeded. The colchicum, when the stomach and bowels are free from irritation, particularly the wine of the roots given in the dose of half a drachm, with the addition of a few grains of calcined magnesia and from one to two or three drops of the black drop have been used with the best effect. The wine of the seeds, and next the vinegar of colchicum are mildest if the first preparation disagree. The vinegar of colchicum, may be given with carbonate of potash, or of magnesia, to neutralize the acid, or an extract may be made by evaporating the vinegar; it may be given in doses of one or two grains in the form of a pill.

The cortical part of the root of sarsaparilla given in a decoction is found to be useful, when there is no internal disease; and where the periosteum is affected, the compound is better than the simple. Air and exercise should be used at the same time. The rhododendron chrysanthemum, given in the dose of half a drachm to three drachms in infusion, acts as a sudorific and a sedative, and with the best effects in chronic rheumatism. The ling-liver oil (oleum jecoris aselli) in the dose of half an ounce once or twice daily is also strongly recommended. Dry cupping Scudamore thinks will be found to be frequently useful, particularly where the pain is deep seated, as in the hip: leeches are the best mode of local depletion when the part is superficial, and cups when deep seated, as the slow abstraction of blood combined with the pressure has the most beneficial ffeects. With regard to the use of external stimulants, parts when cold should be treated with hot applications and vice versa; this rule embraces all that can be said on the subject, and has existed since the time of Aretæus. If the part be hot and throbbing and near the surface, as at the ankle, knee or wrist, evaporating lotions applied either cold or tepid should be used. In obstinate, deep seated pains of the hip, shoulder or knee, blistering is some-

times valuable. This remedy, however, as also the tartar emetic ointment, does not prove useful always; on the contrary it produces great irritation. A plaster, composed of equal parts of opium and soap plaster, has a good effect sometimes; one made of belladonna is also valuable. In the experience of Dr Bardsly the following stimulating epithem has been found very useful in the stiffness and swelling of the ankle joints and knee which occur in young women after puberty; leaving sometimes a thickening and induration, with rigidity of the tendons and ligaments:

Pulv. gum. ammoniac. half an oz. Acet. scill. 3 oz. Boil together by a slow fire, till they are of the proper thickness, strain after they are cold; then spread it upon a piece of leather, and sprinkle over it the powder of sal ammoniac, proportioning the latter according to the degree of irritation necessary to be excited. The following embrocation will also be found to be useful:

Tinctur. lyttæ. Tinctur. opii. Liniment. sapon. compos. Liquor. ammon.: of each half an oz. M. fiat embrocatio.

As the latest experience on the subject of vapour and other baths the following will not be uninteresting. Warm sea bathing from the union of air, exercise, and change of scene stands at the head of the list. The warm bath alone our author thinks does little good.

The vapour bath succeeds particularly well in cases where there is great stiffness of the muscles and ligaments with aching pains, where they have not been too deeply seated or of too old standing. The temperature must be made comfortable, and raised according as the skin perspires freely or the contrary; if it produces no perspiration, if the person complains of a feverish heat, or be plethoric, it is necessary to reduce by bleeding and purging previously: otherwise dangerous effects may result.

When the skin is too prone to perspiration, or when affected with habitual coldness, the air bath will be found most useful. In all cases of rheumatism, the waters of Aix la Chapelle and Barege, which are highly impregnated with sulphur, are exceedingly valuable. There are in this country many waters of the same kind, which in these cases are most important to be tried. Of all the modes of applying sulphur, that, in which air is the medium, is most useful: the power of the bath is varied by the quantity of sulphur thrown upon the plate; the range being from two drachms to two ounces.

The warm natural baths are valuable from the safety of motion in the bath, and also from the stimulating effect of the high temperature upon the weakened muscles. They are suited particularly to cases in which the system is much debilitated and the patient is nearly paralytic. The warm springs of Virginia have a fine effect in chronic rheumatism.

In cases where there is no inflammatory action remaining, and where the system is not plethoric, a bath of the temperature of comfort, that is so cold that when the person goes into it a slight shock

is felt, yet, at the same time, so warm that after he is in the bath he feels quite agreeably. If the bath be large, free motion, after first going into it, favours the reaction, and it does great good. If, however, the patient should feel chilly, and languid after the bath, it should not be repeated. The state of the system must be the criterion by which the physician will form his judgment. A bath of this temperature will be improper, if there be much fever, or if there be any internal obstruction. A stream of water (a douche) directed upon the swoln part sometimes has a most beneficial effect. It may be applied at the temperature from 80 to 108 deg., and may be made of simple water or of water artificially impregnated with sulphuretted hydrogen gas. The following formula is given for preparing the sulphuretted water:

Take of sulphuret of soda or of potash, 2 drachms; distilled water, 1 lb.; carbonate of soda, 3 oz.; muriate of soda, 2 drachms; sulphate of soda, 1 oz. Mix them, and add 20 gallons of water. A jet or douche of vapour is also used with the best effects in cases where there is great rigidity or weakness almost amounting to paralysis. The following fomentation is spoken of by Scudamore as valuable: Fol. belladonn. 2 oz.; papav. capsular. concisar. 2 oz.; aq. fervent. 2 lbs. Mix them, and after macerating them for an hour digest them for a quarter of an hour on the fire; macerate them then for an hour and strain them.

Heat has been applied to rheumatic limbs by sulphuretted water in mud heated to the proper temperature by the sun. They possess no peculiar advantages, and are disagreeable. They are used in Europe, at St Amand, near Valenciennes, at Barbotan, &c. Poultices are a useful mode of applying heat; they may be either anodyne or not, according to the case: I have seen a poultice made of hops and flour of great use; tobacco in weak infusion will be found of advantage, particularly if there be inflammation of the part. In this mode we may stimulate it as much as we please, by mixing with the anodyne ingredients the vol. spir. of hartshorn, &c. The application of heated sand to the place affected has a fine effect sometimes. Friction and shampooing, with bandages made of flannel, applied lightly round the limb, according to the plan of Dr Balfour, in cases not inflammatory, still deservedly hold a high place.

Of Sciatica or Neuralgia Rheumatica.

Sciatica sometimes gives intense suffering without increase of pulse or heat of skin, and is the rheumatism of the sciatic nerve. It may be distinguished from the disease of the hip joint (scrofulous) by the wasting of the muscles of the hip, the pain in the knee, the uneasiness felt on moving the head of the thigh bone in its socket, in addition to the elongation of the limb, which attend the latter disease.

It may be distinguished from the rheumatism of the ligaments of the hip-joint by the sciatica affecting the course of the sciatic nerve, which can be traced, whereas the other is fixed, and seated entirely about the joint. That the nerve is subject to this inflammation has been proved by dissection; it has been found more vascular, and evidently in a state of inflammation. Mr Earle cured a painful state of the ulnar nerve by cutting out an inch of it; he found the neurilema thickened and swollen: a gelatinous secretion has also been discovered below the covering of the nerve.

The symptoms of sciatica, besides the intense pain in the direction of the nerve, are a sleepiness of the parts supplied by the nerve, and sensation as if it was swollen; occasional spasms in the affected leg; with considerable pain, which in one case remitted on lying down; a sleepy and uneasy feeling in the legs and back, coldness and paleness of the affected limb, with a pricking sensation in the limb after the pain went off.

Sometimes there is a sensation of creeping down the limb; sometimes an insupportable aching along the whole course of it; the great pain along the course of the nerve is either constant or is always brought on by walking and followed by spasms; sometimes there is a sensation of burning as if a hot iron was applied to the thigh with a feeling of coldness and numbness or great pain in the foot; formication in the course of the nerve; tenderness on pressure along it; with increase of pain on sneezing or coughing.

The Treatment of Neuralgia Rheumatica.

Oil of turpentine; Fowler's solution; oil of turpentine with the vinegar or wine of colchicum; the wine of colchicum alone; white mustard seed; hot vapour driven against the part affected are among the most approved internal remedies at present used in this disease. When the nervous system is much affected, opium, the black drop or conium, has a fine effect. The shower bath is useful in the convalescence.

When there is an inflammatory diathesis prevailing in the system, which is to be known more by the effects of opium or other excitants when taken internally increasing the pain, cups or leeches, but particularly the former will be useful. Blisters often produce a fine effect in this malady.

They must however be applied two or three times; and our author states that he often found that the third blister completely relieved when the preceding had evidently done harm. Camphorated liniment rubbed along the whole course of the nerve also does great good, also plasters of belladonna and opium. The flour of mustard, cayenne pepper, black pepper, rubbed on the limb have a good effect when the limb is cold, weak and partially numb, shewing that the disease is become chronic; hot water impregnated with sulphuret-

ted hydrogen gas may also be tried; also a bandage from the foot up to the hip.

When the nervous system is in a state of great debility, the sulphate of quinine, or the subcarbonate of iron will be found useful. The biliary system must also be attended to; alteratives, aperients and regulated digestible diet will have a good effect, when it is deranged.

This state of the nerves occurs in other parts of the body; the above plan will be found to be useful wherever it is seated. Sometimes this pain returns periodically, being most violent at night. Electricity in one case related by Scudamore produced great increase of pain with excessive perspirations, and finally complete relief.

Caustic issues; moxa; a course of warm sea bathing; purgatives, where the system is bilious; Scott's muriatic acid bath, at the temperature of 95 deg. the patient being immersed in it for 20 minutes; decoction of sarsaparilla; a bag of heated salt applied on the nerve; vigorous exercise continued with warm clothing till a full perspiration is produced, and repeated daily; nitric acid; James's powders; gnaiacum; nitre; hyosciamus may all be tried, with a good prospect of success. The eau medicinale may also be used.

Hemicrania is a disease much resembling that just described; the application of leeches, blisters, and liniments, are most effectual; the following receipt is particularly recommended by the author:—

Extract. belladonn. 1 drachm. Liniment. Camph. Comp. 1 oz. M. It is rubbed at night over the seat of the pain.

Tic Douloureux or Neuralgia Spasmodica.

In treating this malady, the causes as far as they can be known must be ascertained: sometimes a diseased piece of bone pressing on the nerve produces the malady; its removal of course is the only remedy: a caustic over the seat of the pain has relieved it, when it has arisen from a bruise: it sometimes proceeds from a morbid state of the alimentary canal and liver. Blue pill, gentle purgatives, and a regulated diet have succeeded in these cases. Bark and the fixed alkalies given two or three times a day, either alone or with the subcarbonate of iron, succeed often in a remarkable manner: the destruction of the nerve with caustic or by the knife completes the catalogue of remedies mentioned by our author: he relates a case in which pregnancy appeared to be the cause of the complaint as it got well on an abortion taking place.

In giving the above analysis, we have attempted to present a complete chart of the whole surface of this extensive region of pain, setting down many observations on the use of remedies which are alrea-

dy familiar to many of our more experienced readers as they are to ourselves: but as medical opinion wavers so much in this great age of improvement, we have thought proper to be thus explicit, in order that the young may be confirmed in what they have learnt, and that the experienced may be enabled to test by comparison the validity of their observations and their principles by what others have done and proved on the widest sphere of medical action which the world now presents.

On the Treatment of the more protracted Cases of Indigestion. By A. W. Philip. 8*vo*, 1827.

In this bookmaking age, it is difficult to know which way to turn to avoid the importunities of the great and increasing crowd which fills the market place of fame. If men were appreciated by their works, what Chimborazos of charity would the terrain of modern medicine, and indeed of physical science generally, present. But on approaching them, we are too often reminded that works alone do not constitute the great requisite of that ermine, pure white virtue, that is the intentio, which is required to make a virtue, as well as a crime, as the lawyers say. And though the profession must appreciate the character of Dr Philip highly still in the loose, desultory style, and hypothetical flourishes of this appendix, it may be fairly conjectured that a book was the ultima thule of his intention in fabricating it, and not the better reason, the disclosure of useful truth. It is, however, but the appendix to a more finished production which has gone before, so that we may regard its imperfections as the mere aerial circumgyrations of the receding professional lion on his retreat, who it appears has been a little bayed by some critical cynics, &c. A short review will lay all that is valuable in the book before the reader.

Dr Philip considers examination by pressure as of great importance in this disease, and more particularly of the duodenum, immediately below the pylorus. It must be made in the erect posture, as when the patient is recumbent the viscera recede from beneath the touch and of course no judgment can be formed with regard to its state. The region of the pylorus in the second stage of indigestion is always tender on pressure, whilst that of the duodenum is only occasionally so; but the author observes the latter is often affected in various ways, which it is necessary to attend to in protracted cases.

Oppression and tenderness are always the result of pressure on that portion of the duodenum under consideration; pressure there

affects also the breathing more than when made on the left side; the right side also feels fuller and firmer. Dr Philip seems to overlook the distention produced by the enlarged state of the liver; besides the difficulty of feeling the duodenum renders this view of the subject very problematical: in all cases of dyspepsia there can be no doubt that the liver as well as the adjoining intestines all partake of the irritation of that organ; the distention of the fæces, the deranged and acid secretions, which are proved to contain the lactic as well as the acetic acids, must in their passage have an effect upon the whole alimentary system: therefore to confine the disease exclusively to any one organ, or set of organs, we think observation will notjustify us. Dr Philip, however, considers that in most cases, where there is a difference in the size of the two sides, that it will be found to be owing to the duodenum not freely discharging its contents, which will at once be observed by a hand accustomed to this kind of examination.

He considers the second stage of indigestion as indicated by an inflammatory state of the duodenum, and that the state is communicated to the whole system, and is to be known by the tenderness on pressure of the pyloric region. This again is proportional to the distention of the intestine, which Dr Philip considers more or less as the best measure of the degree in which the intestines are deranged, as also indicative of the general state of inflammatory action in the system generally. So certain is this symptom that he considers that the physician may in general tell the recent nature of the derangement of the digestive organs by laying his hand upon the outside of the bed clothes, over the epigastric region.

Though this position is laid down upon the authority of a man so deservedly celebrated, yet many will doubt of the infallibility of the test. It resembles somewhat the sagacity of Dr Gall, who ventures to ascertain the character by the accidental swellings felt or seen under the integuments of the head, and not merely what it has been, but from feeling the cranium of a young man what it will be through the various crosses and temptations of this wayward life. Like Calchas, the great prophet of Homer, the past, present and future are alike the subject of his cognizance.

If inflammation were an inevitable and certain sign of the second stage of dyspepsia, and if this distention of the bowel and inability to discharge itself depended upon this state, the author's views might be correct; but the point in question requires in the first place to be proved. It is doubtful whether inflammation exists or not. But if it did we should think the progress towards a fatal termination would be more rapid than is generally found to be the case. The presence of irritation from the suspension of the process of digestion, generating acids of the most virulent nature, is we think quite sufficient to account for the appearance of irritation, and till the existence of this state is proved we are not bound to believe in it, more particu-

larly as the proofs drawn from dissection rarely shew any traces of its ravages. Dr Philip confesses that excepting a slight abrasion of its surface he never could discover any evidences of inflammation.

If instead of supposing a general inflammatory state of the system and of the digestive organs, he had regarded the disease as the result of weakness of the system, producing irritability and sensitiveness of the digestive functions, and that the debility was the principal one to be combated, we should have been disposed to agree with his views; it is upon this fact and explanation of the case that we are to consider the cure as rationally founded, and without exercise the remedy on which the principal dependance is to be placed will be regarded as of secondary importance. The general system in these cases becomes prostrated to a state of debility that it cannot reach, and it is only by the long and persevering use of regular gestation, or gentle exercise on foot, that any thing can be done. But to our author.

The position that inflammation produces no organic changes in the surface inflamed militates so directly against the present state of pathological anatomy, that it will be sufficient just to give a few of the results, particularly those of Andral, to shew that this is not the fact. These are thickening of the mucous membrane, which sometimes is four times its usual thickness. Softening of the mucous membrane is another effect: red brown conical growths, on its surface, rising above it four or five lines, resembling the fringes at the lower surface of the tongue when divided into several parts. M. Orfila has observed these growths in the stomach, and M. Andral has seen them in the intestines. Appearances resembling the pustules of the small pox are another derangement; which are, to say nothing of schirrus, ulceration and its most common effects, sufficient for our present purpose. Besides this paradox, Mr Philip states that inflammation which exists in the mucous coat of the stomach, without producing any ulterior effect on the coat itself, may notwithstanding be the cause of it in remote and distant parts. These are specimens of the chimeras alluded to in the introduction of the paper, and which contrary to our original intention we did not intend to notice.

We pass by also the reference of the distention of the duodenum to a languid and inactive bile, which does not sufficiently tally with the former, (the sensibility of the internal membrane of the intestine) to justify any other conclusion with regard to Dr Philip's mind, than that it is very fertile in suppositions, the lowest possible talent in the discovery of truth, since there are many wrong ways and but one right way of accounting for a phenomenon.

There is an affection of the colon which Dr Philip attributes to a delay in the passage of its contents, the consequence of the bile and the other secretions being less adapted to support its due action: Hardness, and tenderness on pressure on the part, are the distinguish-

ing symptoms. The cure consists in purgatives, leeching, blistering, and those means which correct the state of the bowels.

The more permanent effect of stimulants is always hurtful in the second stage; stimulants are better than tonics, using however the latter class as much as the case can possibly admit of: chamomile, orange peel, the warmer gums, the preparations of ammonia are the prominent remedies of this stage, taking care not to excite fever, dryness of skin, oppression, heat at the stomach.

The acids, next the preparations of iron, and least frequently the bark are the order in which these medicines are borne, the first being most easy, and the last most difficult.

The following is a summary of the means he deems most important in the treatment of the disease.

1. Nitrate of potash. Burning of the hands and feet, evening heat indicate the use of this remedy; even he says when the pulse is below natural nitre has sometimes been found beneficial, provided there is an evident tightness of the pulse. In these cases he thinks it is most judicious to combine it with tincture of orange peel or of cardamoms: Where however the chilling effects of the nitre cannot be counteracted, large doses of carbonate of ammonia may be tried, and if this will not do it must be abandoned.

In the first stage nitre he thinks entirely improper, and so we believe does every body else, and in the second stage too excepting those who believe, as Wilson Philip does, that the second stage consists in inflammation which after a little thought and a little examination of the Dr's reasoning very few will do: With regard to nitre long continued in any disease, we know there is this practical objection, that it destroys the power of the stomach; in dyspepsia in any stage, therefore, we think it improper: other diaphoretics can be found, which will be less irritating to the stomach and answer equally well the purpose of abating the fever if it should exist. But we doubt the efficacy of any such remedy; it may palliate, but it can never cure. He praises nitre with mucilage and small doses of the tincture of hyosciamus (six or twelve drops) or three or four drops of laudanum and three or four drops of ipecacuanha wine; these doses though small from the sensibility of the stomach will always be sufficient.

2. Tartarized antimony. In the most minute doses, it relieves dryness of skin, and even though it should excite sickness it does not impair the appetite: This remedy is given in the dose of the one eighth or one tenth of a grain, and is called for with avidity after being left off for some time. Determination to the head is also relieved by it and it is extremely useful when combined with cathartics.

3. Ammonia. In an obstinately cold state of the skin, with feeble pulse, chilliness, great depression of spirits, it is a most valuable, because it is not a highly stimulating medicine: It may be given in

doses of from five to ten grains. In all cases of languor and nervous feeling, this medicine is useful.

We close our remarks upon this paper with one observation. Demosthenes, when he was asked in what consisted the principal requisite of an orator, replied, Action: to the question twice repeated he made the same reply. In the same manner, were we asked what is the proper plan of treating dyspepsia we would say—exercise—exercise—exercise; without it all remedies are useless; with it, to the proper extent, and a proper regimen, they are unnecessary.

Journal of the Progress of the Medical Sciences and Institutions in Europe and America. Vol. 4. 1827.

Doctor Taroni of Milan has succeeded in a woman recently delivered in arresting uterine hemorrhage, by injecting cold water through the umbilical cord and retaining it in the undetached placenta by tying a string round it. The uterus immediately contracted, expelled the after birth and the patient was cured of the hemorrhage.

There appeared in the western parts of Pennsylvania last year a species of dysentery, which was extremely mortal. As the diseases of our summers have great resemblance to those of hot climates, with the exception of their being milder in degree, the following notice of the dysentery from Antigua will be listened to with attention. It attacks principally negroes and consists in an inflammation of the inner coat of the rectum; which sometimes extends to the cellular membrane surrounding the gut, and is then fatal. The parts mortify rapidly: cold sweats; intense pain in the abdomen; discharges of mucus and blood, are the prominent symptoms. Injections of pure lemon juice into the rectum; and draughts of lemonade by the mouth, supporting the patient with cordials, &c. are the prominent parts of the treatment, which is confirmed by the best experience on the island, and also by Dr Ferguson in Flanders in the year 1794.

Fractures. The Baron Larrey cures fractures both simple and compound by surrounding them with bandages impregnated with gummy or albuminous substances, which he leaves in their situation, dressing them but once, whatever may be the state of the parts, till the patient is perfectly well. The bandages take the form of the leg, and preserve its shape. Incontinence of urine has been cured by producing an irritation in the neck of the bladder, by introducing

a sound with one drop of the tincture of cantharides down to its neck. Dr S. Lair is the author of this practice. It has been conjectured that the irritation of the sound is the cause of the relief; it is more probable, however, that it is owing to the cantharides, as it cures the disease when taken internally.

A case, in which a female had three breasts, one of which was seated on the thigh, from which last she suckled the child is related: on the cessation of the menses it dried up.

Manna, says M. Gautier, may be purified of its disagreeable odour, by dissolving it in water of about 127 deg. Fahrenheit, and then passing it through linen, to separate from it all impurities; charcoal is then added, the mixture is agitated and suffered to rest for 15 or 20 minutes. It is then passed through a strainer, and evaporated at the temperature, a little below 212 deg. till a pellicle rises on the surface. It is then thrown upon a tin plate with raised edges, when it immediately crystallizes. When the manna is too glutinous, it should be triturated with a little sulphuric acid, weakened with about its weight of water. It is left to stand for a quarter of an hour, after it is dissolved in water; the acid is saturated with lime water, and the sulphate of lime is suffered to subside. It is then decanted, and mixed with animal charcoal, which removes that smell, and the lime, which, perhaps, it dissolves. It is then evaporated.

Cicatrization of Nerves. Dr Prevost has discovered that the pneumo-gastric nerve, when divided in young cats on one side, in a short time unites, and the animal is not injured, but if the nerve on the other side be divided, it dies soon after. Farther experiments were made, from which he draws the following conclusions. In order that a divided nerve should perform its functions, it is not necessary that the divided portions should be reunited: a whitish cellular tissue which interposes between them, and adheres to them, answers this purpose; it is formed very speedily. The nervous filaments are prolonged through this substance; and only differ from the ordinary nervous filaments in not being so close together.

Poisoned Wounds. M. Boillaud has discovered that, when strychnine was introduced into a wound in the leg of a rabbit, it is by the compression of the veins and not of the nerves that the effect of the poison is prevented.

Pyrothonide is a substance prepared by Dr Ranques from the combustion of linen or cotton lint in a draft of air, placing the substances in a basin slightly concave (about a handful at a time), taking care that the basin does not become too much heated: as soon as

the coal is formed there remains at the bottom a semi-aqueous and oily fluid of a reddish or brownish tint, of a penetrating though not disagreeable odour: a glass of water is thrown into the basin, and a brownish liquid is formed, which applied to the inflamed mucous surface produces a sharp pain, which, however, soon disappears with great relief to the inflammation. Five or six drops, introduced two or three times a day into the eye when inflamed, does great good. It is also used in leucorrhea, in uterine and vaginal hemorrhage in injection. Lotions with it are valuable in frost bites, which are not ulcerated, also in gonorrhea.

Transactions of the Royal Academy of Sciences. M. Magendie has proposed a new mode of treating amaurosis; founded on the idea, that the fifth pair of nerves was instrumental in the function of vision, and that they, like all other nerves, might be susceptible of paralysis. Observing that the pupil contracted at every time the orbitary branch of the fifth pair was pricked with a needle, he concluded to attempt the cure of amaurosis by exciting the nerves. He accordingly plunged a needle into the superior maxillary nerve, and another into the frontal, and established a communication between them and a voltaic pile, in a case in which half the retina, the superior eye lid, and some of the muscles of the eye, were paralysed; and in the space of three months he had the satisfaction to see a complete recovery take place.

Cases of Peripneumonic Abscess of the Lungs; with some Remarks. By W. F. Chambers, M. D.

We believe with Dr Chambers that this disease is of rare occurrence, and that inflammation of the lungs most frequently terminates in the deposition of coagulating lymph, or hepatization of the substance of that viscus. Out of 600 cases of death from pulmonic disease in St George's Hospital only three of pulmonic abscess have occurred in fifteen years. The deposits of albuminous matter in the lungs, liver, spleen, &c. which follow blows upon the head are of course not considered in this enumeration, since though they very much resemble abscesses, they cannot be said to be of that character, as inflammation has nothing to do with their production. In fixing the true nature of abscess of the lungs Dr Chambers thinks the following diagnostics are sufficiently expressive: Called early the difficulty of coming to a clear conclusion will be little.

"In the first place, the appearance and the smell of the expectora-

tion are totally different from those which belong to the sputa of tuberculous consumption.

"In apostema of the lungs, the expectoration is of a brownish or greenish yellow colour, and has an intense odour of putrefaction. This colour was correctly compared, in my hearing, by a physician of considerable experience, particularly in diseases of the lungs, to that of "rotten eggs;" an appearance in the expectoration which, he said, he had long been accustomed to consider, when joined with fetor, as holding out a more favourable prospect of recovery to the patient than that of ordinary purulent matter. This appearance is obviously owing to the mixture of pus and blood with the particles of sloughy lung, which form the parietes of such abscesses: to the latter also is, of course, to be attributed the offensive odour of the sputa. It is not to be wondered at, under such circumstances, that the breath of the individual should be of an almost intolerable smell.

"It may be remarked here, that, in cases which terminate favourably, the dark colour of the expectoration disappears, and its fetor decreases gradually, as the sloughy parietes of the cavity are, from time to time, ejected by coughing.

"It is scarcely necessary to point out at length the difference between this kind of expectoration and the white or yellowish inodorous sputa, occasionally streaked with more or less scarlet blood, which characterize tuberculous phthisis. I have said that the latter are generally inodorous: if they be otherwise at any time, it may be considered an accidental occurrence, arising from the confinement of the matter for an unusually long period in a vomica, and they even then retain their ordinary appearance; and are very unlike, in this respect, to the expectoration I have endeavoured to describe as belonging to peripneumonic abscess.

"The next distinctive mark of this disease which I will mention is, if I may so speak, a negative one: it is the absence of regular hectic fever, after the abscess is fairly opened into the air-tubes.

"Besides this, we may remark that the clear complexion and bright colour, which so often attend tuberculous affection, are absent in cases of apostema of the lungs, in which the complexion is characterized, for the most part, by a dull muddy sallowness.

"I am well aware here, also, that there are instances even of true tuberculous consumption in which the complexion is thick and bloated, or in which hectic fever is not observable. In truth, every practitioner must have now and then seen tuberculous consumption proceeding to a fatal termination without any elevation of the pulse above its natural standard of frequency, or any evident increase of the temperature of the skin. These, however, are exceptions to the general rule, and, when they present themselves to us in practice, are less fertile sources of perplexity than they may at first sight appear to be; inasmuch as our diagnosis is to be at all times founded, not on single symptoms, but on a full and careful observation of all the circumstances of the disease.

"We may say, then, that where the expectoration is such as we have described above,—where the breath has a highly putrid odour,—where the hectic fever is indistinct and irregular,—where the complexion is of a sallow or leaden hue,—and where, besides, the history of the case is that of simple inflammation from the commencement; or even where some of these diagnostic marks are deficient, or indistinct, whilst the majority of them are clearly present, we may decide, with as much certainty as the general imperfection of our science will allow of in any case, that the disease is apostema of the lungs, and not tuberculous cousumption.

"Nor, indeed, is our diagnosis to be here considered a matter of mere speculative curiosity; as it is intimately connected with that which is of paramount interest to the patient and to his friends: I mean the prognosis afforded by the disease. For, if the quantity of matter expectorated in such cases as those described above were presumed to be the produce of tuberculous vomica, it is almost unnecessary to say that the prospects of the individual would be unfavourable indeed: whilst, on the contrary, if we have reason to think that the sputa arise from simple suppuration of a part of the viscus, we may look forward with much more sanguineness to the termination of the malady, as undoubtedly a large proportion of such cases arrive, under proper treatment, at a favourable conclusion.

"With regard to the treatment of this disease, it will be seen, by a reference to the cases I have related, that the separation of the sphacelated part of the lung, of which the parietes of the abscess or abscesses are formed, is often accompanied, even in an advanced period of the complaint, with attacks of inflammatory action, requiring venesection and the other expedients applicable to the treatment of inflammation; the necessity for which will be sufficiently pointed out by the state of the pulse and the skin, and tbe aggravation of pain in the seat of the disease. As soon, however, as this stage of the disease has passed by, the patient will be observed to thrive and fatten under the administration of chalybeates and other tonics, and the use of a more nutritious diet than was previously admissible; means which may be resorted to even when the cough is troublesome and the expectoration still purulent and bloody, with much more boldness than would be justifiable under similar circumstances in cases of tuberculous affection of the lungs."

Dr Chambers then goes on to relate from the cases he has described, namely that the sides of the abscess slough off and are discharged and the sides of the abscess are skinned over and it becomes a large air cell. The hepatization of the parts immediately in contact with the abscess is gradually removed by the absorbents, where it has not been extensive*.

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* Lond. Med. and Phys. Journ. No. 15.

Abstract of Foreign Medicine.

PATHOLOGY AND THERAPEUTICS.

Aneurismal Pouch of the Heart.—This disease consists in an enlargement of the heart similar to that of the arteries known under this name. The symptoms of asthma characterize it: it is also attended with great depression of spirits, and fear of the attack. The paroxysms of this disease in a case described by Cruvelhier were relieved by expectorants, with frictions to the lower extremities, pediluvia. The death is sudden, with great distress in breathing as in asthma. Cruvelhier remarks, in stating the above case, that in ordinary asthma he relies most upon gum ammoniac as an expectorant. V. S. is not generally proper, and is often hurtful.—*Med. Chirurg. Rev. for October* 1827.

Neuralgia is still successfully treated by the carbonate of iron.—*Ibid.*

Musgrave on Mercury.—Mercury pushed to salivation from some late experience from Madeira, &c. is still a favourite remedy in many diseases:—

Erysipelas. This, in Antigua, stands next, in importance, to fever. Dr M. properly considers it as much a constitutional disease as gout, and as prone to metastasis. The practitioners of the island had ascertained, long before Dr Musgrave's time, that saturation of the system, by means of mercury, was the only effectual remedy. "Ptyalism was the usual companion of convalescence."

Dry Belly-ache. The mercurial treatment is that which is trusted to in Antigua.

Liver Complaints. It is unnecessary to remark on the common practice of exhibiting mercury in this class of diseases.

Tetanus. In this dangerous complaint, Dr Musgrave places most reliance on large doses of calomel, in combination with opium and camphor, preceded by copious bleeding. An external application of oil of turpentine and laudanum, when there was a wound, was employed, and turpentine purgatives were exhibited. Dr M. has been fortunate enough to see numerous recoveries from this terrible malady, by this plan of treatment.

In dysentery, rheumatism, and all acute inflammations, whether of the head, chest, or abdomen, which assume a menacing character, calomel and opium were commonly relied upon, with emetic tartar or camphor, or both, after or in conjunction with blood-letting, purgatives, and blisters. To this list may be added those ill-conditioned sores, *not venereal*, to which the slaves are occasionally liable. These are removed by alterative doses of mercury, without which they will baffle every kind of treatment.—*Ibid.*

Permanent Evidence of Successful Vaccination (*Dr Geo. Gregory*). 1. A proper vaccine scar should be distinctly defined, even after a lapse of 20 years; in order to which, it is nearly indispensable that the scab should remain on—or, at least, that cicatrization should not be completed till the 21st day. In some

cases, the cicatrix is formed by the 14th or 15th day—and then "vaccination is imperfect."

2. The true and perfect vaccine scar is circular, or nearly so. When common inflammation supervenes early, the scar is irregular in form, and the system is still open to the small-pox, more or less modified. The diameter of the circular scar is not material. The largest, however, which he considers compatible with safety, will be that of a sixpence, or small wafer.

3. The vaccine scar should be indented and radiated; though he does not insist on these appearances as a *sine qua non* in the proofs of perfect vaccination.

The sources of imperfection in the process of vaccination are chiefly the following:—effete virus; hence the inoculation should always be with fresh matter, and not by points, if possible:—pre-occupation of the system by some other important process, as dentition, visceral inflammation, fever, hooping-cough, porrigo favosa, or herpes:—and, lastly, a too advanced period of life at the time the process of vaccination is instituted.—*Ibid.*

Colica Pictonum (*Hôtel Dieu d'Orleans*).—Between the years 1820 and 1826, Dr Ranque has treated 147 cases of colica pictonum in the above hospital, without the loss of a single patient.

The author does not propose his mode of treatment for those cases in which there are symptoms of inflammation in the abdomen. This inflammation he considers as quite a supervention, and in no way essentially connected with true colica pictonum, which is an affection of the nervous system quite independent of phlogosis. When abdominal inflammatory symptoms appear, the disease is to be treated by leechings alone, and the treatment of the colica pictonum is to be, for the time, suspended.

In the uncomplicated cases of colica pictonum, characterized by the symptoms already detailed, our author has invariably succeeded by the *methodus medendi* now to be described. This method consists in a plaster over the abdomen—another over the loins—glysters—and a certain potion internally. The plaster for the abdomen is composed of an ounce and a half of emplastrum galbani compos:—the same of emplastrum lyttæ—half an ounce of "theriaque"—one drachm of camphor, and half a drachm of sulphur. These are to be incorporated, secundum artem, and spread on a large piece of leather which may cover the whole front of the abdomen. Previously to its application, however, the plaster is to be warmed, and a drachm and a half of tartar emetic, mixed with some camphor and sulphur, is to be spread over its surface. The plaster over the loins is to be made in the same way as that for the abdomen, with the exception of the tartar emetic, which is to be omitted. Those parts which are in pain, in any other part of the body, are to be rubbed with a liniment, into the composition of which, the extract of belladonna enters pretty freely. A mixture is also taken internally, each dose of which contains 20 drops of the etherial tincture of belladonna, (one ounce of the powdered leaves infused for three days in three ounces of sulphuric ether,) drinking plentifully of barley water, with or without gum arabic. The patient is to take no solid food whatever, and indeed as little of any kind of nourishment as possible. The lavement made use of by Dr Ranque is composed of decoction of linseed—four ounces of oil—and twenty drops of the tincture of belladonna above-described. The lavement and the potion are to be taken every day. On the third day, the abdominal plaster is removed—the lumbar one is allowed to remain on. If, however, the colicky pains should not have ceased by the third day, which they generally do, the abdominal plaster is to continue on some time longer. In such cases there will be a plentiful crop of antimonial pustules, and much cutaneous irritation, for which fomentations and poultices must be employed.

The cure required from two to twenty-five days. In almost every case, the vomiting ceased on the second day of the treatment. By the fifth day, the abdominal pains ceased in the great majority of cases. On the sixth day the pains in the limbs ceased, and the constipation was overcome soon afterwards, which was the prelude to restoration of health.

The success which Dr Ranque obtained by this method, in colica pictonum, unaccompanied by any fever or inflammation, induced him to extend it to some

other affections, viz. to chronic vomitings, (of apyrectic character)—to tetanus, (not traumatic)—to epilepsy, considered dependent on abdominal derangement—to puerperal mania, &c.—and in various cases he has been fortunate.—*Ibid.*

Protracted Lactation.—Dr Morton concludes, 1. That, if children are suckled for an undue length of time, *i. e.* beyond the period of nine or ten months, they will be liable, in consequence, to inflammation of the brain. This proposition is supported by seven cases of children affected with cephalitis, where the period of lactation had been considerably protracted.

2. That the same effect will take place, where the milk is furnished beyond the above period to a child, although *that* child may not have been at the female's breast from the beginning. *This is supported by only one case.*

3. That if the disease in question be not developed at once by the said protracted lactation, a predisposition to cephalic diseases will be established. *Supported by eight examples.*

4. That children too long suckled, when taken ill with other diseases, are much more liable to suffer in the head than children reared in a different manner. *Supported by six cases.—Ibid.*

Pathology of Fever. (*Dr Hewett. St George's Hospital.*) The report embraces a year at the hospital above-mentioned, viz. from the 1st of July 1826 to the 1st of July 1827. In that time, 190 cases of idiopathic continued fever were admitted, of which number 26 died, and 165 were discharged cured.

In Dr Hewett's report, a tabular view of the fatal cases is given, specifying the names of the patients, the duration of the fever, and the organs found affected on dissection. On examining these tables, one cannot help observing the predominance of diseased structure in the intestines, especially in the mucous membrane, as compared with lesions in the head and in the thorax. Still, the disproportion is not so great as to disturb the rational view which is now generally taken of fever in this country—namely, that the ravages of this disease are not confined to this or that organ, but fall, we might almost say, indiscriminately on one or other, according to circumstances, the exact nature of which we cannot always detect. Doubtless there are few individuals in whom all the great organs of the body are equally disposed or indisposed to disease. Hence, in fever, one organ is generally found to have borne a greater onus of disease than the others.

The most frequent species of lesion in the intestines (particularly the small intestines) was the follicular ulceration, described by Bretonneau and other French writers, as well as by Dr H. himself on a former occasion.

"That these follicular ulcers of the small intestines (seen in the above report to have so often occurred,) arise spontaneously during the progress of idiopathic fever, has been already sufficiently proved, and, when once established, it will be readily admitted that, though originally the effect of fever, they must (at least during their active and irritable state) reciprocally exasperate the symptoms, and become a very effective cause of the prolongation of the fever; but the doctrine that their existence, when they have lost their irritability, and assumed a tranquil condition, is not incompatible with the subsidence of the fever, and even with some semblance of convalescence, may not gain so ready a belief, and may possibly require some further proof than the mere assertion of the writer."

Two or three cases are detailed by our very intelligent author, which leave no doubt that a considerable degree of convalescence may take place, when these intestinal ulcers have lost their irritability, and thus the patient and practitioner are thrown off their guard, till some error in diet or other circumstance renews the irritability of the ulcers, and kindles up a new fever more dangerous than, and probably very different in kind from, the original.

In St George's Hospital, as in all other parts of the kingdom, a considerable number of intermittents were seen, and all these were cured. Several of the continued fevers also changed into the intermittent or remittent types—probably connected, in some cases, with the state of the intestinal ulcers.

In two or three cases the ulcers had perforated the coats of the intestines, and

violent peritoneal inflammation was consequently superinduced by the escape of the contents of the bowels into the general cavity of the abdomen. These accidents are often accompanied by signs which sufficiently indicate their occurrence, and enable the practitioner to prognosticate the issue.—*Ibid.*

Diabetes Mellitus.—From a case reported by M. Luroth of Strasbourg, it is beginning to be suspected that this disease is connected with disease of the lungs, a conclusion which the celebrated Dr Johnson thinks from observation he has seen confirmed. It certainly is with the intestinal canal, as its frequent cure by purgatives proves, and with the stomach as the use of animal diet by Sydenham.

On the Seat of Fever, by M. Bally.—M. Fodera considers the superior portion of the spinal marrow as the principal seat of affections truly typhous; and our author partakes of the same opinion. He thinks this is confirmed both by experiments and by pathological anatomy. The above portion of spinal marrow has been often found softened in the dead body by our author, M. Bally. Stoll, whose authority is good on all points of practical observation, long ago remarked that putrid fevers did not always infer fevers of debility. He was somewhat astonished to find that bleeding and other evacuations cured the disease better than tonics. The oppression and the prostration of muscular power, although different in their nature, acknowledge the same cause. "The first results from congestion; the second, from inflammation of the spinal marrow." Bleeding, he observes, is more effectual in relieving the former than the latter condition of parts. "Thus, in the beginning of all adynamic fevers, the symptoms which constitute debility are owing to congestion or inflammation of the spinal marrow, either primitive or consecutive of gastro-enteritis." Clutterbug referred fever to the brain, Bianchi to the liver, Swalve to the pancreas, others to the vena cava, Rahn to the digestive function generally, Broussais and Hippocrates to the mucous membrane lining the intestines*; and Fordyce more correctly to the whole system. From this statement though we are bound to enlighten our subscribers on all subjects, and state the facts clearly, would it not be considered as an equitable conclusion, that the professors of these doctrines were rather afflicted with a variety of the brain fever, than that their patients should have been afflicted with a disease which has such a variety of seats considered as the primary seat of the disease. The system under fever has a peculiar set of qualities in each organ, some of which differ from those of health, others are the same, varying in different organs in different cases. As to referring the disease to any one organ, it is unsusceptible of proof; because we have never heard of nor seen a dissection in the first state of fever, from which the cause was located in one part more than another; and if we take dissections in cases in which the disease has continued for a long time, we should conclude that it is seated as Fordyce thought in no part of the body particularly, but that at times it affects every part.

SURGERY.

Dupuytren on Dilatation of the Urethra in Strictures.—The plan in common use is by this great surgeon called the mechanical one. The mode he recommends he calls the vital.

The instrument is of larger calibre and blunt at the extremity; as before is passed into the urethra, but not *into* the stricture. When it has reached this point it is introduced no farther, but kept in this situation for a certain time. It is stated that, frequently when it has been found impossible to pass a fine bougie, a blunt instrument has been introduced into the urethra, and kept anterior to, and in contact with the stricture for eight or ten hours, at the end of which time it has been withdrawn, and the bougie has reached the bladder without difficulty.

* Johnson's Journal for October 1827, p. 498.

Case. Colomb, æt. 36, entered the Hôtel Dieu, Feb. 6th, 1827, with all the symptoms of stricture. The difficulty of making water had commenced seven or eight years ago, and it followed a gleet of ten years standing. *Feb.* 7. A middling-sized sound was introduced as far as the membranous portion of the urethra, where it was stopped by a very firm stricture, into which it could not be made to enter. Up to this point, a bougie was passed, and left in the urethra, but in the course of an hour it was taken out by the patient. In the evening, an attempt was made to introduce it again, but, in consequence of the excessive spasm of the canal, it could be got no farther than the fossa navicularis, and here it was grasped so firmly that considerable force was necessary to withdraw it. *Feb.* 9. A silver sound was employed with similar want of success. Part of a large sound, rounded at its extremity, was now fixed in the fossa navicularis, and at the end of 24 hours, it was replaced by a middling-sized instrument of elastic gum, which was kept in the urethra for twenty days. Three instruments, each larger than the other, were successively introduced, and the patient, on leaving the hospital, could make water freely and in a large stream.

Two more cases are detailed. In both, the strictures were of long-standing, and in both, the introduction of instruments up to the strictured portion, and leaving them there, proved effectual.

The above plan deserves a trial in those cases of spasmodic stricture, in which the introduction of an instrument into the bladder is impracticable, or exceedingly difficult.—*Johns. Journ.*

Ununited Fracture cured by Pressure on the principle of Amesbury (Mr Brodie).—The fore-arm being semi-bent, a wooden splint adapted to its figure, and reaching from the axilla to the fingers, was applied on the inside. On the outside of the arm, a straight splint was placed, extending from the shoulder to the outer condyle, and both splints were then secured by bandages. Over all there was a tourniquet, the band of which embraced the fracture, whilst the degree of pressure thus made on the broken bone was easily regulated by the screw, which was on the outside of the arm. The splint on the inside being broader than the limb, and only slightly concave, the principal vessels were defended from pressure, and whatever was the force employed, the circulation was but little interrupted. In six weeks, the motion of the fractured bones was much diminished, and at the end of three months none was perceptible. On the 31st of May, the man left the hospital, the bones being firmly consolidated, and the arm as useful as before the accident.—*Ibid.*

Chloride of Lime in Phagedæna Gangrenosa.—This application has been tried in a case of sloughing phagedæna at Bartholomew's, and apparently with good effect. A girl was admitted with a sore on the left labium, which included a great part of the perineum, and was covered with a dark-brown slough. The discharge was highly fetid. There was a dusky-looking circle of inflammation around—the cellular texture was puffy, and there was excessive pain. The concentrated acid was applied, and a grain of opium administered. Next day there was less general disturbance; the sore had deepened at its lower part, but the discharge was less fetid. The acid was applied a second and third time but with little good effect. The chloride of lime was now tried, and by the next day there was less irritability, and the ulcer had lost its sloughy character. Mr Vincent not liking, it seems, to "let well alone," now applied an opium lotion, with salines internally, which had a decidedly bad effect upon the sore. The chloride of lime was resumed, and from that time the girl has been doing well.—*Lancet.*

Prurigo cured by Colchicum.—A man, æt. 70, and upwards, was admitted with the disease in its inveterate form. Dr Elliotson gave half a drachm of the wine of colchicum ter die. This the patient took for three weeks, at the end of which time he was dismissed cured.—*Ibid.*

PHYSIOLOGY.

On the Passage of Substances into the Urine (Dr Whoeler).

Physiological Deductions.—A. Iron, lead, alcohol, sulphuric ether, camphor, animal oil of Dippel, musk, and the colouring matter of cochineal, turnsole, vegetable green, and alkanet root, do not pass into the mine. Neither is the quantity of carbonic acid in the urine augmented by the ingurgitation of liquids containing much of that acid.

B. We find in the urine, but in a decomposed state, the following substances: —hydro-perferro-cyanate of potass (transformed into hydro-protoferro-cyanate) —the combinations of potassa and soda with the tartaric, malic and acetic acids (in the form of alkaline carbo ates)—and the hydro-sulphate of potass, (generally in the form of sulphate of potass).

C. The substances which form new combinations with certain matters of the animal body, and which are secreted in this state by the kidneys, are :—sulphur, which passes in the urine, in the state of sulphuric acid, and hydro-sulphuric acid —iodine, evacuated in the form of hydriodate—the oxalic, tartaric, gallic, succinic, and benzoic acids, which are found in the urine combined with an alkali.

D. The substances which pass into the urine unchanged are as follow:—the carbonate, chlorate, nitrate, and the hydro-chlorate of potass (the latter, however, more frequently decomposed,) hydro-protoferro-cyanate of potass, subcarbonate of soda, hydro-chlorate of barytes, silicate of potass, tartrate of nickel and of potass ;—many of the colouring principles, as of indigo solved in sulphuric acid, of gamboge, rhubarb, logwood, beetroot, black cherries, &c.—many of the odorous principles, (partly modified in odour,) as oil of turpentine, juniper berries, valerian, assafœtida, game, castor, saffron, opium, &c.—the narcotic principle of agaricus muscarius, (of Kamschatka)—and, in sickness, oil.

Notes ad A. The causes which prevent some substances (*A*) from passing into the urine, may probably be the following:—1. Certain matters are so changed by digestion and chylification, as to be no longer appreciable in the urine. This may easily be conceived of many of the colouring and odoriferous principles. 2. Other substances, as being more congenial to the animal organism, may be completely assimilated, and entirely employed in nutrition. 3. Others, again, may probably be expelled from the system by other channels than the kidneys, as, for instance, camphor and other odorant principles, which may escape by perspiration and pulmonary exhalation. 4. It is probable that some substances, when arrived in the intestinal canal, change into an insoluble state, and become incapable of absorption—or they may so act, by virtue of their astringent qualities, on the mouths of the absorbent vessels, as to indispose these vessels to take them up. This is probably the case with tannin, and the salts of lead, iron, and other metals.

Ad B. The circumstance of some substances passing into the urine in a decomposed state, may be attributed to two causes diametrically opposite. Thus the transformation of hydro-perferro-cyanate of potass into hydro-protoferro-cyanate, may depend on a deoxidation by some animal substance—whilst, on the other hand, the passage of hydro-sulphate of potass into the state of simple sulphate, may be owing to oxigination in the act of respiration.

Ad D. In respect to the fact of many substances passing into the urine little or nowise changed, it may be observed that most of these substances are of a diuretic nature, and consequently are *excitants* to the kidneys—hence our author thinks he may safely conclude, that whatever excites the kidneys is secreted there with the urine. It is certain, however, that many things prove diuretic without being secreted in the urine. Affections of the mind, venesection, &c. have frequently the effect of exciting the action of the kidneys. Our author comes to the conclusion, (which indeed is the most ancient doctrine,) that all the proximate principles of the urine pre-exist in the blood. This is the conclusion, also, to which Messrs Prevost and Damas came, as the result of their experiments.

Therapeutic Deductions.—The strong disposition possessed by the vegetable alkaline salts, to be converted into carbonates, in the animal economy, and to pass off in this form by the kidneys, naturally leads to the conclusion that these

salts must prove useful in the internal treatment of uric acid formations and depositions in the kidneys and bladder. The alkaline carbonates have been found by experience useful; and are to be given, but not too long, as they weaken the digestive powers. For these we may often substitute with advantage the supertartrate of potass, the sulphate of potass and of soda, the acetate and citrate of potass, and those fruits which contain vegetable alkaline salts, especially cherries, strawberries, &c. These last are found to render the urine alkaline, and may be taken with less disturbance of the digestive organs than the alkaline carbonates.

Acting on this principle, professor Chelius prescribed cherries to a man who was passing considerable quantities of gravel in the form of uric acid. The disorder disappeared. When the cherry season was over, he took lemonade and cream of tartar with equal advantage. The author has found the supertartrate of potass extremely useful in the same disease.—*Johns. Journ.*

*On the part performed by the Sympathetics in the Functions of the Senses. By Prof. Tiedemann**.—By the dissections of modern anatomists, particularly those of Bock, Hirzel, Jacobson, and Cloquet, the sympathetic nerve has been found to send filaments of communication to most of the cerebral nerves, and directly or indirectly to all the senses. The eye possesses the ciliary ganglion, which is generally in connection with the first branch of the fifth and the third pairs and not unfrequently with the sixth. Besides these, there are usually some filaments extending directly from the ganglion in the carotid canal to the ciliary ganglion, or in communication with it through the medium of the sixth. In this manner the ciliary ganglion is in direct connection with the sympathetic, and is regarded by some anatomists, among whom professor Tiedemann may be mentioned, as a part of this nerve.

The organ of hearing is connected with the sympathetic by several twigs. It receives branches from the ganglion of the glosso-pharyngeal nerve, the sphenopalatine ganglion, and the superior cervical ganglion. These twigs unite in the tympanum, and form a plexus, from which others are given off to be distributed to the membranes covering the fenestræ rotunda and ovalis, and to the Eustachian tube. In addition to these, the tensor and laxator tympani and the stapedius, receive minute filaments from the chorda tympani, which, according to Cloquet and Hirzel, is a branch of the sphenopalatine ganglion, and not of the portio dura.

The organ of smell receives very numerous and important nerves from the sphenopalatine ganglion, which, on account of the close communication between it and the sympathetic, may be regarded as a part of this latter nerve. These nerves accompany the posterior nasal artery to the membrane lining the septum and the conchæ. A twig from these nerves descends on the side of the septum into the canal behind the incisor teeth, and forms a small ganglion (ganglion incisivum,) from which filaments are distributed to the mucous membrane of the palate.

Lastly, the tongue is connected with the sympathetic, partly by the branches which surround the lingual artery, and partly by the chorda tympani, which is either joined to the gustatory branch of the fifth pair, or in close apposition to it.

From this connection which exists between the sympathetic and the nerves supplying the organs of senses, professor Tiedemann has drawn the following conclusions:—

1. That the sympathetic performs a considerable part in the functions of the senses, keeping these organs in their proper condition by the influence which it exercises on the process of nutrition.

2. That by its influence the secretion of the media is probably effected, through which the action of external objects on the nerves of the senses is effected.

3. That on this nerve the automatic motions in the organs of the senses depend, which regulate the force of the action of external objects on the nerves of these parts.

Prof. Tiedemann then relates some of the most important sympathies between the organs of senses and the principal vital organs, accounting at the same time

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* Tiedemann's and Treviranus's Zeitschrift fur Physiologie. Vol. I. p. 2.

for their occurrence, by reference to the connection which exists between their different nerves.

Sympathy of the Eyes with each other, and the principal Vital Organs.—We observe in the eyes several sympathetic appearances, both between the different structures of the same eye, and between both eyes, as well as between those organs and parts remote between them. As far as concerns the sympathy between the various structures of the eye, we know that the globe is very intimately connected with the secretory organs in its vicinity and the eyelids. If the eye be long exposed to the action of strong light, the tears flow. This increased secretion is only to be accounted for by the irritation produced on the ciliary nerves, through them on the ciliary ganglion, and through the ciliary ganglion on the long branch of the fifth pair, from which the nerve to the lachrymal gland is sent. If the eye be exposed to the action of brilliant dazzling light, the eye-lids are suddenly and almost convulsively closed. The motions of the eye-lids are certainly under the dominion of the will, since we can open or shut them at pleasure; but this sudden closure of the lids cannot be regarded as a voluntary act, but the effect of an involuntary irritation, propagated from the ciliary nerves to those of the eye-lids. To this it may be added, that the eye-lids in persons when asleep contract on exposure of the eyes to strong light, without the person being conscious of what is occurring. Further it is well known, that even for a few seconds together the eye cannot be kept open against the sun, and that the eye-lids involuntarily close. And lastly, when the iris, which receives its nerves from the ciliary ganglion, is inflamed, intolerance of light and constant blinking exist.

If the divisions of the first branch of the fifth pair which go to the eye-lids, the integuments of the eyebrows and forehead, be injured, the functions of the eye are mainly disturbed; in such cases dilatation and fixedness of the pupil, and sometimes even amaurosis, occur. Morgagni conceived that amaurosis, when it occurs from these accidents, is occasioned by the irritation continued along the frontal nerve, to those fine filaments which accompany the sheath of the optic nerve, which, in their turn, act on the optic nerve itself. According to Ribes, Wardrop, and Walther, the irritation is propagated from the wounded frontal to the ciliary nerves, on which nerves these appearances depend. Ribes conceives that the retina, which probably receives branches from the ciliary ganglion, is brought into a state of inactivity. Walther, on the contrary, thinks that the iris becomes primarily, and the retina secondarily, affected. It appears, however, probable, that the division of the frontal and supra-ciliary nerves, by their connection with the ciliary ganglion and nerves, acts on the vessels of the iris and retina. Probably congestion of blood in the retina and iris takes place, by which their functions are destroyed, or the nutritive process disturbed. A singular case, in illustration of this subject, came under the notice of professor Chelius, of Heidelberg: a girl received a blow on the forehead, which was followed by dilatation of the pupil, and loss of the sight of one eye. By the application of leeches to the forehead, cold, and repeated blisters, the sight was completely restored.

Wounds, or injury generally, of the ciliary body, produce, according to Beer, dilatation and fixedness of the pupil, and amaurotic blindness. Wardrop observed the same effects after a wound of the conjunctiva. These morbid conditions can only be explained by the injury of the ciliary nerves, and their reciprocal actions on the blood-vessels of the iris and retina. The dilatation of the pupil, by the use of narcotic substances, is attributed by most surgeons to their action on the ciliary nerves, and the action of these nerves on the iris. Between both eyes there is a very strong sympathy, which may be strikingly observed in the motions of the iris. If we close one eye suddenly, the pupil of the other becomes somewhat dilated; and, on allowing the light to fall on both eyes, the pupils contract. In many cases of amaurosis, where one eye only is affected, the iris retains its motion: and, on exposure of the diseased eye to strong light, the iris is not sensibly affected, being quite independent of the irritation on the healthy eye. If, on the contrary, the light should fall on the amaurotic eye, or if the eye be closed, the pupil of the healthy organ will not be changed. But if the healthy eye be exposed to the light, or if it be shaded, contraction or dilatation of the amaurotic eye ensues. Here the branches from the ciliary ganglion, accompa-

nying the arteries to the retina of the affected eye, appear to be paralysed in their action; whilst, on the contrary, the ciliary nerves of the iris seem to retain their power, and to be affected by the irritation of the other eye, which is extended to the moveable iris. But, in what way is a sympathy between the two irides kept up? According to Haller and Zinn, the sympathy between the two eyes is created in the brain. Wardrop, and others, explain it by the interlacement of the fibres of the optic nerves. Others, among whom Troxler may be mentioned, think that the irritation of one eye is propagated to the other by the nasal twig of the first branch of the fifth pair, and by means of the Schneiderian membrane. Against all these opinions, very forcible objections may be raised. As to the notion that the sympathy is created in the brain, it is scarcely possible to conceive that this organ would act at the origin of the optic nerve merely on the ciliary and not on the other nerves of the eye. Against the opinion of Wardrop it may be stated, that the optic nerve of an eye, which has lost for some time the power of vision, generally falls into a state of atrophy, and, therefore, most probably loses the power of propagating the irritation of one eye to the other. Against Troxler it may be urged, that the mucous membrane in each nostril is so separated by the bony and cartilaginous septum, close to the posterior nares, that no communication between the two nasal twigs exists.

As the motions of the iris depend on the ciliary nerves, so the sympathy between the iris of each eye also depends on the same cause. The pituitary gland is a body uniting the branches of the sympathetics, and of the nerves of both eyes. We know, from Fontana's investigation, that branches of the sympathetic ascend on the carotid, and are connected with the pituitary gland. Bock, Cloquet, and Hinzel, have also observed these twigs, which come in part from the ascending branches of the sympathetic nerves, and in part from the carotid ganglion to the pituitary gland. The communication between the two ciliary ganglia or the ciliary nerves, and the sympathetics, has been established beyond doubt. Hence the pituitary gland is evidently a medium of connection between the sympathetic nerve of each side of the head, and, consequently, of the ciliary nerves of both sides, and, in this way, the sympathy between these organs is maintained. The pituitary gland has, moreover, in its fine texture and reddish grey substance, which particularly exist in the ganglia of the sympathetic, great similarity with a ganglion of this nerve. In addition to the sympathy existing between the motions of the irides there are other appearances which equally merit our notice. If one eye suffers, the other frequently suffers with it. If there be inflammation of the iris of one eye, or opacity of the lens, or staphyloma of the cornea, the same complaint not unfrequently makes its appearance in the other eye. These, and similar sympathies, can only be explained by the connection between the ciliary nerves and ganglia of both eyes.

We will now briefly allude to certain sympathies existing between the eyes, and other organs situated at a distance from them. Bright light falling suddenly into the eye, sometimes occasions sneezing. This phenomenon may be explained by the connection of the ciliary nerves with the branches of the sympathetic, and the sympathetic with the phrenic nerve. The peculiar tickling in the nose, which precedes the sneezing, is produced by the connection of the ciliary nerves, and ganglion with the ethmoidal nerve of the first branch of the fifth pair, which leaves the orbit to be distributed to the membrane covering the conchæ.

In wounds of the eye, for instance in those of the iris, vomiting comes on which can also be explained by the communication between the ciliary and sympathetic nerves and between the sympathetic and the eighth pair. Beer sometimes observed, during the depression of the lens, vomiting ensue, if the ciliary body were irritated or injured. The connection then between the ciliary ganglia and nerves, the sympathetic and par vagum, and the connection between these and most of the other nerves in the body, are sufficient to explain the sympathy which exists between the eye and other organs of the body.—*Lancet.*

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Essays.

ART. I.—*An Address introductory to a Course of Lectures on Surgery, delivered from the Chair of Surgery in the University of Maryland, October* 1827.

THE department of Surgery, to which on the present occasion I have the honour to solicit your attention, asks not of me to vindicate its rank among the sister sciences and liberal arts, nor to expatiate on its dignity and utility as circumstances which are for an instant to be called in question. Still less necessary is it that I should seek to enhance in your estimation the relative value of the science which it is my province to teach, by invidiously comparing it with the collateral branches of medical science. To each, to all, let us award the character of indispensable utility, whilst we enlarge our own department by the zeal and interest with which we mutually pursue it. Permit me, however, on this occasion, and before entering on the principles of Surgery, to suggest some of those circumstances which to the student and the philanthropist give interest to the study of our subject.

On entering upon the acquisition of a chosen science you will indeed have already, in some degree, estimated its objects, its utility, and the intellectual gratification its pursuits promise to yield.—Many of the sciences present, at first view, an inviting aspect, that wins at once the attention of even the superficial observer.

Splendour and sublimity which delight the eye, and call forth the imagination, invite to the study of Astronomy. Experimental philosophy at once presents much that is attractive and imposing. Chemistry too is ostentatious of her attractions, and flashes upon us in a gaudy but not deceitful exterior. Botany strews her path with roses, and decked in all the garniture of spring pleases the sense while she instructs the understanding. But what shall we say of the pleasures which attend the study and the practice of our own art, that comes before us in the bloody garments of suffering humanity, introduces us to many a scene of suffering, and often compels us to be cruel even in our very deeds of benevolence.

At first view it might appear that every thing is here painful and repulsive, and that neither the study nor the practice of our art yield any of that intellectual enjoyment which, in addition to the acquisition of practical knowledge, is usually the reward of the assiduous pupil. But it is one thing to allure the fancy and quite another to please and to edify the understanding. Whoever is attracted to the study of chemistry merely by the splendour of an experiment, or to the study of botany by the sweets with which she addresses herself to the senses, will soon grow weary of scientific amusement. These circumstances may indeed give us a pleasing introduction to the more important objects of research, but whoever cultivates science on account of her nobler qualities, will soon become regardless of those external traits which, to the superficial observer, render her attractive or repulsive. The mind's eye is at once caught by the aspect of utility, and by the manifestation of infinite wisdom and benevolence, displayed in any liberal art and in every subject of scientific research. I can assure you that the full development of our subject will not only exhibit principles and phenomena worthy the contemplation of the most elevated understanding, but will also present occasion for the exercise of some of the noblest sentiments of the human heart. Once, indeed, surgery was but a mere manual tact, and hence the term by which we designate that department of the healing art. But we can trace almost every subject of scientific research to an origin equally humble and obscure. Astronomy, whose empire is now the earth and the heavens, was born in a shepherd's cottage. Chemistry had its origin in the workshops of the sordid alchymist. The earliest cultivators of human anatomy were spurned from the presence of men, and stole from the gibbets the means of prosecuting their clandestine inquiries. The practice of surgery was a mere business of the hand, until the collateral branches

of medical science had so far advanced, and the principles which are derived from the phenomena of health and disease had been so fully developed, as to render it necessary that surgical remedies should be directed in their application by scientific principles.—When the complicated structure of the human frame began to be understood, it became obvious that whoever would repair the ravages which disease or casualty may have inflicted upon the system, should perfectly understand its admirable organization and the relations of its constituent parts. As physiology advanced it also became apparent that he should justly appreciate the vital importance of every organ and every tissue which may require the remedial application of the knife, the cautery, the ligature or the bandage; also that he should comprehend the relations which each and every organ bears to the animal economy in disease, and the morbid sympathies which associate remote organs with each other. The institutes of surgery also embrace a correct knowledge of the principles of general pathology and a discriminating acquaintance with those diseases which constitute the province of the physician. Many of the local diseases requiring the hand of the surgeon are often greatly modified by the morbid condition of the general system. The most interesting and philosophical part of the theory of medicine is as necessarily subservient to the practice of surgery as to that of any branch of the healing art. A distinguished surgeon of our own time has immortalized his reputation, by the ability and precision with which he has indicated the relation existing between general and local diseases. There is one part of that which may be termed the philosophy of disease, the most pleasing to the general student, and displaying phenomena not less admirable than those of any department of nature's works, which is especially related to surgery. I allude to that wonderful principle of our vital constitution by which the powers of life are rallied to resist the encroachments of disease.

This has frequently been termed the recuperative principle, and often the vital soul, from the apparent intelligence with which it institutes a certain series of actions, for the purpose of fortifying the system against the effects of a local injury or disease. Permit me to illustrate this principle by supposing such an injury inflicted upon some organ, not immediately essential to life, as shall disorganize some part of its structure. Instantly through the medium of the nerves the whole vital apparatus is apprized of the aggression, and all the powers of life rush to the point of attack. From the blood-

vessels of parts contiguous to the seat of injury there is poured out a peculiar fluid, which immediately coagulating, forms a firm barrier that effectually prevents the infiltration of irritating fluids from the parts destroyed. To disengage the dead portion which has now become a foreign body in the living flesh, a process is instituted by which the enclosing parts are slowly removed in a direction which shall most readily effect the disengagement of the offending substance and expel it from the body. Nothing it appears to me can display more forcibly the evidences of design, and that admirable adaptation of means to ends, which speaks of infinite wisdom, than this provision in the living system, even against contingencies. Dr Paley, it is well known, in his admirable work on Natural Theology, or the evidences of creative design displayed in the works of nature, derives some of his most interesting facts and illustrations from the vital functions manifested in health; but to me it appears that nothing is so conclusive on this head as the presence in our economy of those latent principles by which provision is made even against accident. It would be ridiculously absurd to assert that this is ever the result of fortuitous coincidence.

As further evidence of the intellectual nature of our subject, I appeal to the character of those individuals who have found in it sufficient excitement, and full scope, for the exercise of the most transcendent genius. The celebrated John Hunter, who may be styled the father of scientific surgery, was one of those extraordinary minds which, in the chronology of science, mark the periods of mental advancement. Fortunately for our art circumstances directed the whole force of his genius to the investigation of the healing powers of nature. Here he found ample field for the exercise of his preeminent faculties. A mind like that of Hunter could never have sported in the shallow streams which are tributary to science, but sought at once the chambers of the intellectual deep. There is a single principle which, if not first discovered by Hunter, was first explained by him, and that in regard to surgery is so completely fundamental, as probably to have done more for the alleviation of human suffering, and the preservation of human life, than any other scientific trusts with which medical philosophy has furnished us. I allude to the principle of union by the first intention, as it is termed by surgeons, or the immediate reunion of divided parts, when accurately replaced, without the necessary intervention of the slow process by which new parts are formed. Thus if a smooth cut be made in the flesh, and the lips of the wound be immediately and accurately

applied to each other, in a few hours they will be found to have completely united. But if the divided parts be not applied to each other, and especially if irritating medicaments be introduced, there must necessarily take place the process of granulation, by which the vacuity is filled up with newly organized parts. This however was the mode of practice almost generally employed till the time of Hunter. The figurative language in general use which is derived from our art was undoubtedly suggested by the former prevalence of this practical error. "To pour a balsam into bleeding wounds," "to infuse a healing balm," are phrases which will still do well enough for poetry; but the expression is far more soothing to the fancy than is the remedy to the flesh.

By a celebrated author it is asserted that for want of timely care millions have died of medicable wounds. It is not less true that, from the officiousness of erroneous art, millions have died of medicated wounds. I will even venture to assert, that a single fundamental error in the principles of surgery has caused more premature deaths than the wars of Cæsar or Napoleon.

You perceive then, gentlemen, that surgery is far from being uninteresting even as a department of natural science, and that it presents many phenomena which even the general scholar may contemplate with pleasure and profit. It would be superfluous on the present occasion, to dwell at length on the practical value of a department which no one is disposed to traduce; but I may be permitted to state some of those circumstances which recommend the practice as well as the study of our art to those who are about to enter upon professional avocations. We cannot deny that to the surgeon who shrinks not from his duty, there must occur many scenes of agony, inflicted often by his own hand. Even in his very deeds of benevolence his hands are stained with blood. This to one endued with the ordinary sensibilities, cannot but create a painful sympathy: but does not the surgeon also participate in the joys of him whom his own hand has snatched from impending destruction? Let me assure you that if there is an extreme of pain in the discharge of his responsible duties, there is also a corresponding one of delightful participation. The happiest moments in the whole life of the surgeon are those which follow a dangerous but successful operation. There is nothing in the sequestered walks of professional life that partakes so much of the spirit of chivalry as the generous enterprize of the intrepid surgeon.

The warrior at the head of his thousands, about to engage in martial strife, has not occasion for the exercise of more elevated qualities of the soul than has the surgeon who, under the influence of no momentary excitement, calmly pledges his reputation, and to rescue the life of a valued individual enters the lists against the grand enemy of our race. The relief and the security rendered by the hand of the surgeon endear him in a peculiar manner to his patients, because the means of his restoration are palpable and obvious. The remedies of the physician, for the most part, relieve gradually, and often in an obscure and appreciable manner: but many surgical diseases are susceptible of instantaneous and complete relief. The disease of those organs of our frame which contribute most to our enjoyment, which constitute us social beings and establish our interesting relations with surrounding objects, are the peculiar province of the surgeon. I allude to the organs of sense, the eye and the ear. It is often the delightful privilege of the surgeon, to open again the obscured windows of the soul, and to let in light and joy upon darkness and despair. We may form some idea of the dread calamity, from which the surgeon is often commissioned by heaven to redeem his sorrowing patients, from the mournful soliloquy in which Milton causes Samson Agonistes thus to express the deep despair of his own bereavement.

> O first created Beam, and thou great Word,
> "Let there be light, and light was over all;"
> Why am I thus bereav'd thy prime decree?
> The sun to me is dark,
> And silent as the moon,
> When she deserts the night,
> Hid in her vacant interlunar cave.
> Since light so necessary is to life,
> And almost life itself, if it be true
> That light is in the soul,
> She all in every part; why was the sight
> To such a tender ball as th' eye confined,
> So obvious and so easy to be quench'd?
> And not, as feeling, through all parts diffus'd,
> That she might look at will through every pore?

To what a rapturous strain would he have changed his song could nature have been once more opened to his view: again l'allegro would have been the spirit of his verse:

Straight mine eye hath caught new pleasures,
Whilst the landscape round it measures,
Russet lawns, and fallows grey——.

It was probably for reasons which I have already named that our great spiritual benefactor, when on earth, chose to display his omnipotence and infinite compassion in opening the eyes of the blind, unstopping the deaf ears, and restoring the withered members of the maimed. In directing the agency of those salutary principles which a benevolent Creator has implanted in our vital constitutions we are therefore the humble imitators of him whose life was devoted to beneficent acts. It was omnipotence which first opened the eyes of one born blind: but even in this we have been permitted to approach our great example and to open to the day eyes which even in the morning of life rolled in darkness.

In the practice of our profession the surgeon has often occasion to witness, on the part of his patients, fortitude and serenity of mind, in danger and distress, which approach the very climax of moral sublime. None more frequently exhibit those ennobling qualities of the soul than individuals of the weaker sex. I have several times had occasion to perform bloody, painful and dangerous operations on the persons of delicate females, and never have I seen human nature so elevated above every earthly contingency as in those trying moments.

In regard to the qualifications of the surgeon both innate and acquired, I am desirous of correcting certain popular prejudices. Too many believe that the art of surgery consists chiefly in a native tact, or manual dexterity, which is but little influenced by education. That there are natural aptitudes which qualify individuals for some avocations rather than for others I do not deny, but it is intellectual fitness which is here chiefly important. The mere mechanical part of surgery is far less difficult of acquisition than the manual part of many other arts which may be with ease acquired by any individual. The most important qualification of the surgeon is perfect self-possession, the same collectedness which characterizes the brave man in the hour of danger. He must also be influenced by a degree of professional ardour and by an actuating spirit of philanthropy. With these endowments I will venture to assert, that few will be found wanting in physical qualifications. Almost any thing which art can accomplish will be achieved by the individual who is stimulated by an ardent desire and an inflexible determination to succeed.

Another opinion entertained by too many, and which is exceed-

ingly injurious to the character of our profession, is, that the surgeon must be distinguished by a rudeness of deportment, and necessarily possess an unfeeling heart that shall render him totally regardless of the pain which his hand inflicts. A morbid sensitiveness is certainly inconsistent with prompt and decisive action: but in some of the most illustrious instances surgical skill and talent have been associated with a refined and delicate sensibility and a winning suavity of manner. Indeed it is no more essential that the skilful surgeon should be brutal and unfeeling, than that the brave soldier should be savage and cruel. The greatest degree of moral firmness is generally associated with humane and generous sentiments. In chivalry a gentle knight is a brave knight; and in surgery the intrepid operator is generally benevolent and humane. Indeed it is only such an individual that will feel the full weight of his responsibility, and aspire to every qualification which shall conduce to the safety of his patient.

The most eminent of the English surgeons, and perhaps the first of the age, is a veteran in the cause of humanity, and to his patients a man of most bland and soothing address. The celebrated Larrey, the friend and surgeon of Napoleon, and who followed, like an angel of mercy, the bloody career of that conqueror, manifested in the discharge of his duty so much faithfulness, and in alleviating suffering such a sense of the importance of his duties, that Napoleon pronounced him the most honest man alive, honest not merely in the limited sense of that word, but honest as the term is employed by an admired author, who pronounces such a man to be the noblest work of his Creator.

In regard to the scientific attainments of the surgeon, I have already had occasion to remark that there is no department of medical science which is to be regarded by him as unimportant: but especially should he be familiar with relative anatomy. And I may with the more propriety urge the importance of its acquisition, in consideration of the distinguished ability with which are discharged the duties of the two chairs that in this institution are devoted to so important a subject, and in consideration of the unequalled advantages for practical anatomy furnished to you in this city. It should be impressed upon the mind of the pupil, that in no art or science is a little learning a more dangerous thing. Little advantage will result to the surgeon from a superficial and speculative knowledge of anatomy. I question indeed whether one wholly ignorant of the structure of the human frame and who practises boldly, knowing no

danger and fearing none, will not acquire more reputation with the world than he whose knowledge of the situation of the vital organs is barely sufficient to render him timid and irresolute. Such a surgeon, in competition with an ignorant and presuming man, will fare much like the half taught fencer, who, while he is practising his passadoes, his lounges, and his guards, is most unscientifically prostrated by a downright two hand blow. One may indeed become a complete anatomist without necessarily being a good surgeon, because there are necessary moral qualifications of which I have already spoken: we often observe that those who may have all the mechanical dexterity derived from the prosecution of practical anatomy are nevertheless inadequate to using the knife upon vital parts. To become a surgeon, however, without being an anatomist, is absolutely impossible. It is an erroneous impression too common with students of medicine, that surgical attainments are not essential to the education of one who is unambitious to qualify himself for the use of the knife, but is content with the ordinary routine of the practice of physic. While he believes that a well qualified surgeon must necessarily be a scientific physician, he flatters himself that the latter may even acquire eminence without the attainments of the former. Nothing is more important than to correct an error which may thus influence the future professional character of the pupil. Universal experience proves in the most satisfactory manner, that it is neither desirable nor practicable to effect the division of these two branches of the healing art. The scientific character of both departments would be lowered by this repudiation; and surgery would again become the province of dexterous quacks. Even in cities, where the distinction obtains in the greatest possible degree, urgent occasions will often compel the physician either to exercise the functions of the surgeon, or to shrink with mortification and chagrin from duties which public opinion will assign to him. In country practice the physician must necessarily be the surgeon of his district. The treatment of fractures and dislocations especially admits of no delay: and however reluctant or unqualified he may be, the medical practitioner is always regarded by the community as adequate to their treatment, if at all adequate to any professional duty. In the treatment of those comparatively trivial cases of surgery which, as we have seen, will force themselves upon the physician, there is not, as in most cases of occult disease, either cloak or subterfuge for ignorance or unskilfulness. The competency of the

operator is appreciable by every observer. His work is exposed to the eye, and his failures are indelibly marked upon the persons of his patients. A distorted limb may for a time be enveloped and concealed in bandages and splints; but eventually it must become a monument of ignorance and presumption. Public opinion in regard to professional qualifications is unfortunately founded not so much upon a just estimate of the scientific attainments of the individual; because these cannot be appreciated even by the general scholar, so much is medical erudition the exclusive province of our own profession: but if the surgeon or physician be found prompt and skilful in those things which are involved in no professional mystery, it will often be presumed that he is equally versed in the more recondite principles of his art. The dexterous accomplishment even of some of the lesser manual duties of our profession often gives the first favourable impulse to the reputation of the young practitioner. On the other hand, I have known an individual to be so overwhelmed with mortification at the unfortunate result of a similar essay, as not only to alienate the confidence of those around him, but also that which it is necessary he should repose in himself, and forever afterwards to shrink with timidity from the more important duties of his profession. Those who are eager for professional renown should bear in mind that surgery is the heroic part of the healing art, and honour may here be achieved, not by the weapons of death, with which it is won on fields of blood, but with the instruments of mercy and under the banner of humanity.

In regard to the responsibilities which rest upon the surgeon, let me assure you that they correspond to the elevated character which I have claimed for our department. There is something peculiarly execrable in the rash presumption with which an unqualified surgeon attempts the bolder enterprizes of Surgery: in the practice of physic the physician may occasionally commit errors, and not only deceive others but even himself. There is no refuge of this kind for the desperado surgeon, whose patient may often perish beneath his bloody hands. Unfortunate and fatal cases may indeed occur to the scientific and the skilful, and in such instances to utter censure is ungenerous and cruel: but when they occur from sheer ignorance and presumption, there is no commiseration due, but we might inscribe over the dead reputation of such an individual the last words of Hamlet to Polonius—

"Thou wretched, rash, intruding fool, farewel."

The surgeon who with an untutored hand incautiously approaches the springs of life is actuated by no consciousness of duty, but only by an eagerness for fictitious fame, or the still more sordid motive of avarice.

Let me ask what it is that prompts the assassin to bare his weapon for the destruction of human life: it is often the lucre of gain which actuates both; and hence they are allied in crime.

Whilst I sum up the solemn obligations which will be felt by every conscientious surgeon, I cannot but be deeply impressed with the responsibilities which rest upon myself. In regard to your acquisition of that professional character which I have attempted to pourtray, we have mutual interests and must reciprocate endeavours.

Adversaria.

ART. I.—*On the Restorative Powers of the Brain. Communicated by a Distinguished Practitioner of Louisville, in conversation with a Friend to this Journal.*

Mr Cox of London has treated successfully a case of hernia cerebri by pressure made upon the tumor by strips of adhesive plaster, and the general antiphlogistic plan. The old mode of cauterizing or cutting away the surface of the protruded part produces inflammation, and abscess of the brain. The bowels he advises should be kept very freely open, and the depletion should be full and active.

The following case shews clearly that the loss of brain may be very great and still the patient may continue to exist; and that the brain makes great efforts to establish itself on any great injury, and that it has great recuperative powers. Mr —— —— had a fungous tumor on the top of the head, which it was determined on consultation with Drs Salt and Burrill to extract. The operation was begun, and as it proceeded, the tumor was found to protrude through a hole in the cranium, and that it was attached to the dura mater. It was removed. The brain protruded, till after many months, as the physicians could do nothing in so extraordinary a case, the patient applied to an empiric, who professed to cure all kinds of tumors: a mixture of corrosive sublimate and borax was applied by the pretender, and the brain removed by successive applications till a cavity was formed which equalled that of a common cup: on introducing the finger it was found that bony processes projected from the side of the hole in the bone through which the tumor had protruded at the distance of about two inches and a half into the brain. They formed by processes from their sides a network. One of these was extracted; but its removal was attended with so much hemorrhage, that no more were taken away. On the farther application of the caustic it was found that these bony processes forming the network

were attached to a plate of bone low in the brain, and that they formed with the plate a sort of cup, intended to circumscribe the tumor, the brain protruding and suppurating through between the bony processes, till at last by the excessive discharge the man was exhausted. His mind was perfect to the last, without the slightest possible interval of delirium, mania, or any symptom of derangement whatever. Before he died he called the doctor to him and told him he would soon die, and requested him that no examination of his body should take place. His wish was complied with, though hopes are entertained that on the disinterment of the body, which is shortly to take place for its removal to a new vault, he will be able to procure the part of the skull illustrative of this curious case. During the application of the corrosive sublimate to the tumor an excessively violent salivation took place; which was cured (after unsuccessful attempts by large doses of opium, purges and the ordinary means) by the exposure of the face to a draught of air blowing through a broken pane of glass, the patient being seated before it every day for some time.

Cold air applied in the above manner our friend thinks a most valuable remedy; as he has succeeded with it in the most obstinate cases of salivation. He also adds that a solution of sugar of lead in tar water has a most beneficial effect in rapidly allaying the inflammation; and from the testimony of sailors who are often violently salivated in their voyage on the river and who chew tarred rope or oakum with the effect of easing the pain, he has no doubt that both ingredients are highly useful. He thinks it is the best gargle that he has tried, and should in all cases be used. The only apparent objection to this gargle is that it renders the teeth brown; but the colour will wear off.

The same gentleman attended another case of injured brain, in a negro, whose skull had been so fractured by a blow from a fence rail, that he was obliged to remove eight pieces of the cranium; the dura mater was extensively lacerated, and parts of the brain (about perhaps two tea spoonsful) were seen upon the fragments of the bone. He was bled, purged, and antiphlogistic treatment generally pursued. Ice was applied to the wound for seven or eight days; no suppuration between the third and fifth days, as is usual to wounds, taking place, but one part of the wound having healed up, and the patient not having any unpleasant symptom, the ice was continued, and the wound healed without the slightest suppuration or discharge whatever. At the end of seven or eight days,

cloths in cold well water were substituted for the ice, and in five weeks the patient (a cooper) resumed his occupation.

The above facts though short are perhaps the most valuable series which have been published on the subject of wounds of the dura mater and brain, and if the editor is not mistaken go far to introduce a plan of treatment as effectual in wounds of these parts as in those which have heretofore been regarded as more curable.

My authority treated a case of fracture in consultation with Dr Harrison of Louisville in which the plan of applying ice to the part was pursued from the occurrence of the fracture with great success. The ancle was dislocated; the tibia was protruded through the boot and the capsular ligament; the fibula was broken; and there was great laceration. The ice kept the parts below the point of reaction, and they healed up rapidly. In this case there was a sulphur coloured curd-like substance on the surface, which was pus modified in its properties by the ice.

Another case was also treated by a practitioner in Louisville, in which the ancle was dislocated as above, with protrusion of the bones through the skin, in the same manner with the happiest success. As these cases are stated to be uniformly fatal by Cooper and others, this mode of practice is worth attending to.

It goes upon the principle that the reaction destroys life. The cold prostrates the blood vessels and completely prevents it; the great principle of treatment actively to be pursued in the management of all inflammatory diseases. My authority, in speaking of the pleurisies which occur in that region, states that the only mode of managing them is to bleed till reaction becomes impossible from the debility. One bleeding of this kind is sufficient. It is the only remedy necessary. Dr M'Dowal of Kentucky has pursued this plan after operations for the stone: he has lost but one in forty cases. On the slightest indication of pain he bleeds to fainting, and repeats it till reaction from debility is impossible.

Speaking of gargles in the above paper brings to mind a fact of some importance, which is that a gargle of corrosive sublimate prescribed for an ulcer of the tongue produced a blackness of the teeth, which was not removed for years. In the case of a lady this might be an error much to be regretted: by the gentleman, to whom it was prescribed, the practitioner was never forgiven.

Corrosive sublimate has another quality, which would render a practitioner equally obnoxious; that is when applied in the form of ointment it changes the hair grey. This fact was communicated by

a friend as happening in the practice of Dr Culbertson of Chambersburg, a man of great judgment. The reason why it has not been observed before is probably because corrosive sublimate is seldom prescribed as an ointment, and very seldom used as a wash in tinea capitis, &c. or other diseases of the hairy scalp. I have seen the same effect from the ointment of white precipitate applied to the hair. It changed the hair grey for about half an inch from the roots. It grew out shortly again of its natural colour. In Dr Culbertson's case, I understood that the eyebrow, the part to which the corrosive sublimate was applied, always continued white, I suppose from the corrosive sublimate having destroyed the rete mucosum, or its colouring matter, which from the above effects on the hair mercury must have the power of doing.

Art. II.—*Case of Traumatic Tetanus successfully treated.*

An interesting case of traumatic tetanus has recently occurred in the Infirmary of the University of Maryland, in which the editor of this journal, surgeon of the house, had an opportunity practically to illustrate principles advanced in relation to this subject in a recent number of the journal.

The patient, Mr ——— Boyle, was brought into the house having recently suffered a gunshot-wound in the hand. The metacarpal bone sustaining the little finger, together with the muscles covering it and the little finger itself, was carried away. The bloodvessels and nerves appropriated to the finger next it were so much injured that ultimately it sloughed as high as just beyond the second joint. The injury had occurred two days before the patient entered the house, and in the mean time he had been seen by several intelligent medical gentlemen, who had directed the use of anodynes and emollient poultices. Inflammation had been instituted and the patient complained of much heat and pain in the wound. He having been somewhat intemperate in his habits, the case was obviously one which threatened to terminate in tetanus.

To allay the topical inflammation we directed the application of an evaporating lotion of diluted alcohol, which seemed to allay the local irritation and pain. Opiates were given in doses of two grains

repeated *pro re nata.* The bowels were evacuated from day to day by laxatives and enemata. Notwithstanding a useful employment of these remedies unequivocal symptoms of tetanus became apparent on the eighth day. They were the characteristic pain at the scrobiculus, stiffness of the muscles of the neck and back, occasional spasms which violently threw the head and shoulders backward indicating a tendency to episthotonus. The patient was sleepless, suffering extreme pain, and his countenance expressed great anxiety—Bowels inclining to constipation—Pulse frequent, quick, full but easily compressed.

Under these circumstances we prescribed opium in four grain doses to be given as frequently as should be found necessary to keep the symptoms at bay, or to strongly influence the system. The inunction of the strong mercurial unguent, in quantity, was directed, so that two ounces of the article were used in twenty-four hours. Stools were promptly and without difficulty obtained by the employment of saline cathartics—moxas were applied to the spine.

By the vigorous employment of these remedies the symptoms were with much difficulty kept in check. During one day more than a drachm of solid opium was exhibited. Accidentally for a few hours this article was omitted, and immediately the symptoms were greatly aggravated, and with difficulty again controlled. On the fourth day from the employment of mercury the system became slightly affected with that article, and from this period there was a very gradual abatement of disease; still however it was found necessary, for more than two weeks, to continue opium in the quantity of a scruple daily. Any diminution of this quantity, while the wound continued irritable and painful, was followed by an aggravation of symptoms. The wound was dressed with the fermenting poultice. The sloughing finger was not removed till the patient was decidedly convalescent, because it was observed the slightest mechanical irritation greatly aggravated the local pain and the general spasms. The tetanic symptoms were obvious during twenty-four days.

On the declension of the tetanic affection symptoms of hectic began to appear, for the relief of which the tincture of cinchona was found adequate.—At the end of the fifth week the patient left the house convalescent.

ART. III.—*On the use of Sweet Oil in assisting the discharge of Gall Stones.*

My authority mentioned to me that he had heard from a lady who occasionally discharged gall stones that large doses of sweet oil to the extent of 6 or 8 oz. always produced their evacuation. He tried it, first premising calomel in the dose of 20 grs., following it with doses of sweet oil in the quantity of 8 oz. at the interval of four hours, or of 6 oz. at the interval of three hours, and always with the effect of discharging them. The existence of the disease is best known by examining the stools, as small green pellets of the size of a pea will always be found floating in a liquid of the colour of tobacco juice. Shortly after the exhibition of the sweet oil the larger ones are discharged. My authority has seen gall stones evacuated as large as a filbert, soon after the exhibition of the sweet oil. He saw the most decided effects of the plan in the case of a carpenter who sat almost constantly with his hands upon his knees in the greatest possible agony. Relief in this instance was immediate by the use of the sweet oil and calomel. Dr Rogers, formerly professor of the college in Cincinnati, a man of considerable reading and much observation, in a conversation with my friend, told him that he had had six cases of the same disease, which he had relieved by the same remedy. He had it from some unknown source, and as it is certain that it had been tried with success by the person who had communicated it to Dr Rogers, from such reiterated experience there can be little doubt of the efficacy of the remedy.

ART. IV.—*Cholera Infantum.*

As Louisville is situated in a warm climate its summer diseases are most remarkable. Cholera infantum is best treated there by calomel freely given till the stools change, and the cold bath frequently

applied. Great faith is put in the powder of Dr Miller, that is, a half or one grain of calomel with one-tenth or one-sixteenth of a grain of opium administered every two or three hours, after free purging by the calomel alone. The infusion of the bene leaf, as it always sits easy on the stomach, is the best drink. I have seen in Philadelphia a great deal of this disease. Its cause is heat; I believe it seldom is attended with fever, and its best remedy is the external application of cold. That its cause is heat is proved pretty decidedly by the circumstance that it appears and disappears with the summer; and as the same bilious discharges are observed by travellers across dry arid districts, where the absence of vegetation and putrefaction proves the heat to be the sole cause: other reasons support this idea. External heat has a specific operation on the liver. It even extends to animals. In France it is said that they enlarge the livers of geese by inclosing them in hot ovens and feeding them there for some time. The effect of the climate of the East Indies is proverbial. The liver disease is there endemic: even the hounds brought out from England by the country gentlemen die of it. In hot, arid and dry situations this disease is always found.

I believe that if our houses were constructed on such a plan that cool air could be secured as regularly as water in our cities, that the effect would be a good one. In the southern cities many valuable children would be saved. This could easily be done by having the air cooled by passing through pipes in contact with ice, which might be placed in the top of the building; from which it would flow freely through every part of it; the air would then be pure.

Every disease when its cause is clearly understood is easily treated. Cool air is the best remedy for cholera: all others are merely assistants.

In bilious fevers, my authority states that they wrap their patients up in wet sheets when the fever is at its height, and with the best effect; and in cholera infantum, when the head is hot and the feet cool, a shower-bath he has seen to be highly useful.

Art. V.—*Chambers's Medicine.*

Chambers's medicine for the relief of drunkards has been used with success near Louisville in the cases of several negroes. It

completely reformed them of their vice. I have seen several cases in which it has been given in Philadelphia. It sometimes produces inflammation of the bowels. In one case (an old man), he complained of the habit and wished to get rid of it: he said that it produced purging, without any other effect. I have tried ipecacuanha wine with success: tobacco I have seen cure an obstinate drunkard. He smoked continually and his habit left him. In another case a large quantity of spirits of turpentine swallowed by mistake produced inflammation of the bowels, and the habit from that time was arrested. Drukenness affects the mind, and the body. By producing such a degree of sickness that the mind is affected with an extreme degree of disgust when it thinks of the liquor, the habit will be given up. Like consumption it admits of degrees; from one or two tubercles up to thousands; in the former, the patient may live to 70 years; in the latter, a few months. So in drunkenness, the predisposition may be strong, it may be hereditary; and habit may have strongly confirmed it. Nil desperandum should be the motto of every physician even in this great evil.

Art. VI.—*White Milky Stools.*

The state of the system, which is shewn by milky evacuations with particles of a curdled substance floating through it, has occurred several times. It denotes an entire suppression of the ordinary functions of the liver. After seeing several fatal cases, under the use of rhubarb, our friend was induced to try calomel in repeated doses of five grains: it was continued for five days in one case, till at last the evacuations became bilious, when the appetite and strength returned. The appearance of the bile is considered as a certain sign of the successful issue of the ordinary bilious fevers of Louisville. In the terrible epidemic of 1822 he gave up the treatment of all cases as soon as the bilious stools appeared, and considered them as convalescent.

Analytical Reviews.

ART. I.—*Observations on Sloughing Sores. By G. G. Babington, Esq. Surgeon to the Lock Hospital.*

Nothing certainly can exceed the industry and devotion with which our science is cultivated on the other side of the water. This little production is too valuable not to be generally known, and as Dr Babington understands well the importance of the maxim "multum in parvo" when applied to style, we shall introduce him "in propria persona."

"The singular discordance which exists in the treatment proposed by different authorities in these diseases, might naturally lead to the conclusion, that cases very different in their nature had been confounded under the single appellation of sloughing sore. This I believe to be true. The various plans of treatment which have been recommended, by bleeding and diaphoretics, by tonics, or by mercury, are all judicious and beneficial in some cases, and all injurious in others, and the difference of the effect may be accounted for by some differences in the character of the disease. The distinction, I apprehend, will be found to be in general exceedingly simple, and to consist chiefly in the state of the capillary circulation in the immediate vicinity of the sore. In a part which is sloughing, the circulation may be either above or below the natural level, and it is the duty of the surgeon to reduce it where it is excessive, and to raise and excite it where it is deficient in activity and tone. The appearance of the edges and surrounding skin will, I believe, be found to be a far more accurate and delicate criterion of the state of the circulation in the part, than either the state of the pulse or the temperature of the skin; and, by a due attention to this circumstance, the practitioner will seldom have reason to change his plan of treatment, and will very rarely be disappointed in the ultimate result.

"On these principles the following division has been made, which will, I believe, be found to comprehend all the more important varieties.

"1. Perhaps the following is the most common form of sloughing sore. In men, it is found usually on the prepuce. The mode of

its commencement varies. Occasionally the sloughing attacks a sore possessing the usual characters of what is called the Hunterian chancre; but more commonly the first appearance is as a small swelling or lump, of the size of a large pea, not marked by any circumstances which tend to excite particular attention. In a day or two, there appears in the centre of this swelling a small yellow hole, which enlarges rapidly, soon becoming black, and assuming the following appearance:—The whole aspect is that of acute inflammation; the surface of the sore, as has been said, is dark; the surrounding parts are much swelled, and of a *bright arterial* colour. The swelling is of that kind which usually marks acute inflammation; that is, there is deposition of lymph in the cellular membrane, as well as effusion of serum. There is, however, not commonly any distinct indurated base, since, if such induration exists in the earlier stages of the sore, it is rapidly destroyed by the spreading of the slough, and, unless the progress be unusually slow, there is no time for its reformation. The pain is severe, but not more so than is readily accounted for from the violence of the inflammation. The general system almost always sympathizes with the local disorder, being affected with the ordinary marks of inflammatory action. The more plethoric the temperament of the patient, the more rapid is the progress of the sloughing.

"By bleeding, antimony, diaphoretics, and purgatives, the inflammation may be subdued, and the sloughing arrested. The sore will then sometimes granulate and heal; but more commonly the improvement under this treatment is only temporary, and the sloughing recurs in successive attacks until mercury is employed. Thenceforward the recovery is easy and uninterrupted. If the surgeon can trust with confidence to his own judgment, the mercury may be employed in the first instance, either with or without the other means which have been mentioned. Indeed, if the progress is not very rapid, the cure may be trusted, as was the case in one instance, to mercury alone. Mercury will depress arterial action with no less certainty than antimony, and these depressing effects are no sooner felt in the system, than the skin surrounding the ulcer loses its bright florid hue, the tumefaction subsides, and the sloughing ceases to spread. This sore presents no difficulty. The effect of the remedies is almost always uniform, and nothing but an unfounded dread of mercury on the part of the surgeon can perplex the treatment, or affect the facility of the cure. It may be assumed as a principle, that, as long as acute inflammation exists, mercury never either occasions or aggravates sloughing.

"2. Another form of sloughing sore, much less common than the preceding, but far more formidable, is chiefly met with in the groin, but sometimes also on the penis. The state of the parts is exactly opposite to that which prevails in the first species. There

is little pain, and no tumefaction. The edge is not everted or elevated, but is on a level with the surrounding integuments. It is encircled by a narrow border of *very faint pale-coloured* inflammation, fading at the distance of half an inch or an inch into the colour of the neighbouring skin, which is more than usually white, and as it were bloodless. The slough does not generally form in large black masses, or separate in distinct portions, but appears as a yellow fringe attached to the surrounding skin, and hanging loose and flaccid into the profuse discharge which fills the sore. As a successive edging of slough forms, the original portion becomes involved in the discharge and is lost, much as the edge of a piece of melting lead gradually sinks and is lost in the fused metal. The ulceration is often most extensive, but it chiefly involves the skin and the adipose membrane, frequently dissecting, but rarely destroying, the muscles. The state of the pulse varies. It is generally deficient in strength, though it is most commonly frequent and full, and is easily excited by stimulants of any kind.

"But the surgeon cannot be too strongly cautioned against trusting to inferences drawn from the pulse or the skin, in preference to those which are suggested by the edge of the ulcer; the appearance of which affords convincing proof of the languor of the circulation in the part, and sufficiently indicates the employment of tonics. Bark, quinine, mineral acids, and sarsaparilla, are the appropriate remedies, and, if steadily continued, will generally, even in aggravated cases, succeed in arresting the disorder. But, if the surgeon, wearied by the obstinacy of the case, and alarmed at the imminent danger of the patient,—doubtful also, perhaps, of the justice of his original opinion, and recollecting the benefit which he has witnessed in other cases from depletion or mercury, should resort to either of these remedies in the present instance, the error is always injurious, and frequently fatal. The existing atony of the blood-vessels is often so far increased, that the progress of the sloughing cannot afterwards be stopped, and the malady not unfrequently terminates in death.

"In these cases hemorrhage is by no means an uncommon occurrence. This is an accident to which all sloughing sores are liable, but it is not in all equally dangerous. In the first species it frequently occurs to a profuse and formidable extent, from the force of the circulation combined with the violence of the sloughing; but I have never seen any instance where serious consequences ensued. The loss of blood relieves the inflammation and checks the disease, and the hemorrhage is not subject often to recur. But, in this second form of sore, the case is altogether different. Large bleedings will return at considerable intervals, and often so reduce the strength of the patient as most seriously to aggravate his danger. It is sometimes supposed that the hemorrhage takes place after the sloughing

has been stopped, and on the separation of the eschar; but this I apprehend is an error. On the contrary, it is at the moment when the sphacelation is proceeding with the greatest rapidity that this consequence is chiefly to be apprehended. It is most probable that the process of obliteration of the blood-vessels by the effusion of lymph, which is known to be usually carried on in the neighbourhood of a sphacelated part, does not in these instances take place, in consequence of the debility of the system, so that, when the coats of the yet pervious arteries become involved in the slough, the blood forces its way through the flaccid and corrupted mass. At any rate, no means of preventing the return of the hemorrhage will be found so effectual as the continued use of tonics, by which the blood-vessels are gradually restored to their natural health and vigour.

"3. There is a third species of sore, which differs from the preceding rather in its external appearance than in its essential characters. It seldom occurs unless active inflammation has preceded, and frequently follows the copious use of mercury at some previous period. There is considerable tumefaction. The colour of the circumference, instead of being bright and florid, is of a *deep venous red*, often inclining to purple; and marks rather the stagnation of the blood in the enlarged and weakened vessels, than any increased vigour or increased activity of circulation. The slough is usually of a dark hue. There is little pain attending this form of sore, nor is the progress rapid; but it is extremely obstinate and difficult of cure. Tonics are as necessary here as in the last species, and the danger from mercury is equally great. If this remedy is freely exhibited in the advanced stages of the disease, it not unfrequently happens that the penis, the scrotum, and the testicles, and sometimes the life itself, fall a sacrifice.

"4. In the forms of sore which have been noticed, the principle of treatment is simple, and the diagnosis easy. The colour and state of the surrounding integuments afford a test which will seldom leave the surgeon in uncertainty, and never mislead him; and the treatment is not often liable to interruption from any change in the state of the disorder. But there is another sore on the penis, by no means uncommon, of which the description is more difficult, and the treatment more complicated. It is properly rather a foul than a sloughing ulcer, but, as it is liable to sudden and violent attacks of sloughing, it demands a place in this enumeration.

"It may occur on the glans or at the meatus urinarius, but its most usual seat is behind the corona glandis, spreading upwards on the body of the penis, between the corpora cavernosa and the præputium, and dissecting the one from the other. The surrounding parts are in a state of active, but not of acute inflammation. The colour of the prepuce is florid, and it is generally swelled and œdematous, but so little thickened or rigid that the œdema is obviously the only obstacle to its complete retraction. There is hardness, but it does not

extend beyond the base and the edges of the sore, and is indeed nearly confined to the spreading edge; for it is of the nature of the sore to heal at one part and to spread at another. When the sore has burrowed between the corpora cavernosa and the prepuce, this thickened edge can be felt externally, and usually it forms a hard ring encircling the penis, marking the extent of the ulceration, and creeping nearer and nearer to the pubes as the disease proceeds upwards. The discharge is brown, watery, and copious. The pain is not very severe, but there is much constitutional disturbance, a quick and irritable pulse, and some heat of the skin. As long as this sore proceeds by ulceration, its progress is very slow; but in the sudden attacks of sloughing, to which it is subject, large portions either of the penis or the prepuce, but generally of the former, are frequently destroyed. These devastations fall sometimes on the glans, but chiefly on the corpus spongiosum; so that there are few advanced cases in which a hole has not in this way been opened into the urethra, about half an inch or an inch above the situation of the frænum. Until the discharge assumes a healthy appearance, and the thickened edge subsides, any apparent improvement is only deceptive.

"It is the liability to slough which forms one of the distinguishing characters of this sore, and constitutes the principal difficulty in treating it. The state of the surrounding parts sufficiently shews that there is active, though not violent inflammation, and indicates the employment of antiphlogistic remedies. But there is little real tone; and, if this treatment be carried to any extent, the parts pass into the opposite extreme, and extensive sloughing ensues. Mercury is, of all remedies, the most beneficial, and seldom fails at first to lessen the inflammation, to correct the discharge, to reduce the thickening, to clean the surface of the sore, and to cause a commencement of cicatrization. But if the remedy is continued and pushed, so as to produce the usual depressing effects of mercury, the consequence is, almost invariably, that the prepuce acquires a dark colour, and the sore sloughs in the violent manner which has been already described: and this effect can only be avoided by conducting the mercurial course with the greatest caution, and combining with it sarsaparilla or some other tonic, which is capable of supporting the system during its continuance. As the secondary symptoms which follow this sore are peculiarly obstinate and dangerous, and can only, I believe, be escaped by the early cure of the primary ulcer, too much attention can not be paid to the regularity and management of the mercurial course.

"5. There is yet a fifth species of sloughing sore, which is perfectly distinct from any of the preceding. It is not common: I never saw it except in women, nor except in a hospital. In the Lock Hospital it occurs two or three times in the course of the year, and I believe the proportion has always been about the same. It is almost confined to the lowest order of prostitutes, who have been subject to

great hardships, and have been in the habit of drinking spirits largely. I have never been able to trace it to any particular part of the town; nor do I believe it to depend on infection, as in no case have I seen it followed by secondary symptoms, though in the Lock Hospital it has never, in my recollection, been treated with mercury. Indeed, I have seen it originate in a patient who had been for some time an inmate of that institution, where it has long been known under the just, though not very distinctive, appellation of Constitutional Sore.

"This sore is excessively painful. It may be situated on any part of the labia, perineum, nates, or thighs in their neighbourhood. The surface is covered with a thick dark slough; the discharge is thin and ichorous; the edges are tumid and partially everted; the circumference, to a considerable extent, is violently inflamed, but of a *dark-red* colour. It is usually circular, or nearly so, and spreads most rapidly and extensively in every direction. The pulse is greatly accelerated during the progress of the sloughing, but there is not much heat of the skin, or appearance of tone about the system. The pain is most excruciating and constant, and its severity is proportioned to the rapidity of the sphacelation. This ulcer is sufficiently distinguished from the first species by the dark colour of the surrounding integuments, and from the third species by the extraordinary violence of the pain, and the extent and rapidity of the destruction which it occasions.

"This sore never resists full doses of opium. Until the pain is subdued, no benefit whatever is discernible; but, as soon as this effect is produced, the sloughing is arrested. There is consequently no limit to the dose in which opium should be exhibited, until full relief is experienced; and, in order to accelerate this object, the external application of it should be combined with its internal use. Opium is useful in all cases of painful sloughing, but, in other cases of sloughing sores on the genitals, the benefit is for the most part temporary: in this it is permanent. In the greater number of instances the sloughing does not recur, and the sore readily cicatrizes; the period of recovery being proportioned to the extent of the destruction. Sometimes, it is necessary to combine with the opium some mild tonic.

"I apprehend that it is in this sore that such remarkable advantage has been derived from the application of the concentrated nitric acid. The pain is in the part which is undergoing sphacelation, and if the process can be brought at once to a termination by means of a caustic, the relief is as complete as from the use of opium. In whatever way relief is obtained, the effect on the progress of the sore is equally certain."

ART. II.—*Catarrho-Rheumatic Ophthalmia. By Mr Mackenzie.*

The importance of accurately distinguishing the diseases of the eye, from the importance of the organ as well as from the difficulty of curing them, will justify the following extract from the work under review; as it presents the sum and substance of this author's principles and practice, under the three heads of symptoms, causes, and treatment.

"*Symptoms.*—1. As both conjunctiva and sclerotica are affected in this disease, the symptoms are both more complicated, and also more various, than those of the unmixed conjunctivitis and sclerotitis.

"2. The sense of roughness, which is compared by the patient to the feeling of sand between the eyelids and eyeball, and the secretion of purulent mucus and purulent meibomian fluid, are sufficiently indicative of the part taken in this disease by the conjunctiva. The nocturnal accession of racking circumorbital pain marks the affection of the fibrous sclerotica, the surrounding periosteum, and the neighbouring temporal fascia.

"3. In some cases of catarrho-rheumatic ophthalmia, the conjunctivitis is severe, the sclerotitis slight; but more frequently the sclerotitis is severe, the conjunctivitis not so considerable.

"4. In this disease the conjunctiva and sclerotica are attacked simultaneously. Occasionally it happens, in the course of pure rheumatic ophthalmia, that the patient, from some new exposure, becomes affected also with catarrhal conjunctivitis. More rarely does an attack of rheumatic sclerotitis supervene on catarrhal ophthalmia. But in catarrho-rheumatic ophthalmia, both membranes appear to be attacked at once, in consequence of the influence of one and the same exciting cause.

"5. In this disease, the redness is evidently both conjunctival and sclerotic. Under the moveable network of the conjunctiva, we perceive the immoveable zonular inflammation of the sclerotica. In pure catarrhal ophthalmia, the sclerotica, no doubt, partakes in the inflammation of the contiguous tunic, but no paroxysms of rheumatic pain are present: the sclerotica suffers sympathetically, not primarily. In pure rheumatic ophthalmia, also, the conjunctiva is reddened, from contiguous sympathy with the structure which it invests, just as the skin is reddened over a joint suffering from acute rheumatism; but neither the conjunctiva in the one instance, nor the skin in the other, is the seat of the primary disease. Besides, in

pure rheumatic ophthalmia, the conjunctiva betrays no marks of profluvial disease.

"6. Chemosis, or inflammatory œdema of the sub-conjunctival cellular substance, is by no means an uncommon attendant on catarrho-rheumatic ophthalmia. When it does occur, it hides from our view the sclerotic redness.

"7. The discharge from the conjunctiva in this disease is never profuse, and seldom opaque. It amounts, in general, rather to a mere increase of mucus, than a flow of pus.

"8. The eyelids adhere together in the morning, from the inspissated meibomian secretion. Not unfrequently they are also externally red and swollen.

"9. Considerable intolerance of light and epiphora attends this ophthalmia, in all its stages; but especially in those cases where the structure of the cornea is affected.

"10. The conjunctival pain, which is compared to the feeling produced by sand between the eyelids and eyeball, is felt most in the morning, or when the eyelids are moved. The sclerotic pain is nocturnal, and observes the same periods of renewal, violence, and abatement, which I have noticed in my paper on Rheumatic Ophthalmia. The conjunctival pain is referred to the surface of the eye, and sometimes to the forehead. The sclerotic pain is circumorbital.

"11. In this disease, the cornea is extremely apt to suffer from ulceration, and from effusion of pus between its lamellæ. Indeed, there is no ophthalmia to which adults are exposed, in which ulcer of the cornea and onyx are so frequent, as in the catarrho-rheumatic. If this disease is neglected for eight or ten days, and especially if the patient be far advanced in life, we almost uniformly meet with one or other, and not unfrequently with both of these symptoms.

"12. The ulcer is peculiar. It spreads over the surface, rarely penetrating deeply into the substance, of the cornea. It generally cicatrizes without leaving any opaque speck, the cornea remaining merely irregular, as if part of it had been hacked off with the lancet; and of course vision, from imperfect refraction, is confused. Professor Beer and Mr Wardrop have described this kind of ulcer as attendant on pure rheumatic ophthalmia, but I have never seen it except in catarrho-rheumatic cases. Professor Beer mentions that it originates in a phlyctenula, but I have never had an opportunity of seeing any appearance of this kind. If the case continues to be neglected, or if it be mistreated, this ulcer ceases to be superficial; the substance of the cornea is more deeply attached, and opaque leucoma will be the result.

"13. Onyx, or effusion of pus between the lamellæ of the cornea, is the most alarming of all the symptoms of this ophthalmia. It generally commences at the lower edge of the cornea, in shape like the white spot at the root of the nails, convex on its upper edge,

gradually increasing, mounting upwards, separating the lamellæ more and more between which it is effused, and greatly adding to the sufferings of the patient. It reaches not unfrequently to such a height as to implicate more than half of the cornea. The pus of an onyx in catarrho-rheumatic ophthalmia is very rarely absorbed. The cornea becomes ulcerated over the centre of the onyx; the pus is evacuated; the ulcer penetrates through the posterior lamellæ of the cornea; the aqueous humour escapes; the iris falls forward into contact with the ulcerated cornea; in nine cases out of ten these parts adhere together, and the result is partial or total staphyloma.

" 14. As the onyx goes on advancing, there is commonly also an effusion of lymph going on in the pupil: the pupil becomes first of all less vivid in its motions; the colour of the iris changes; the pupil becomes hazy, contracts as the onyx increases, and may at last be obliterated.

" 15. In some cases the onyx is accompanied by hypopium, or effusion of pus into the anterior chamber. In other cases the onyx bursts first into the anterior chamber; false hypopium is thus produced, and ultimately the cornea gives way.

" 16. If luckily the matter of an onyx be absorbed, albugo remains for a considerable time, but gradually diminishes, and may ultimately almost entirely disappear. If onyx is dispersed by the cornea giving way, leucoma is the result, and never entirely disappears. Staphyloma cannot result, unless the iris and cornea have become partially or totally adherent. Mr Wardrop remarks, that partial staphyloma generally affects the inferior half of the cornea. The reason is, that partial staphyloma is commonly the consequence of onyx, which in nine cases out of ten takes place at the lower edge of the cornea.

" 17. In catarrho-rheumatic ophthalmia, the pulse is generally quick and sharp; the tongue white, and mouth ill-tasted. The nocturnal pain completely prevents sleep, till about sunrise. Catarrh sometimes attends, and adds to the febrile symptoms.

" 18. We generally find that the rheumatic symptoms yield first to treatment; the catarrhal continuing for some days longer. But in some cases I have observed the reverse; the circumorbital pain continuing in a slight degree after all the catarrhal symptoms were gone.

" *Causes.*—The causes of catarrho-rheumatic ophthalmia appear to be similar atmospheric influences to those formerly enumerated as giving rise to catarrhal and rheumatic ophthalmiæ. Amongst the poor, the disease may in general be traced to cold to which the patients have been exposed, particularly during the night, from deficient clothing and want of proper shelter. Like other inflammatory and rheumatic affections, it is more prevalent during north-easterly winds.

Professor Beer thought that cold draughts of air, playing upon the eye, excited rheumatic ophthalmia; and that foul air caused catarrhal ophthalmia. According to this view, air at once corrupted and impelled with force against the eye, especially when the head is covered with perspiration, will be the most likely cause of catarrho-rheumatic ophthalmia.

"In 1805, at Riding-street Barracks, nearly twenty miles to the interior of Romney Marsh, the second battalion of the 52d Regiment appears to have suffered severely from catarrho-rheumatic ophthalmia. Dr Vetch attributes the severity of the disease in that situation, and the intermittent form of some of the symptoms, to the influence of the marsh.

"That the discharge from the conjunctiva in catarrho-rheumatic ophthalmia, if applied to the conjunctiva of a healthy eye, will excite a puro-mucous conjunctivitis, is extremely probable, and is supported by facts. That catarrho-rheumatic ophthalmia can arise from contagion is extremely improbable. In two cases the patients had been exposed to the same exciting cause; and while the one caught catarrhal ophthalmia, the other was seized with the catarrho-rheumatic form of this disease.

"Professor Beer mentions that catarrho-rheumatic ophthalmia sometimes occurs in children, and still more frequently in old persons, along with suppression of urine. But he seems to reject the conclusion of some, that this was any thing more than a mere coincidence; and he gives us no hope that diuretics would be peculiarly serviceable, even though they restored the secretion of urine.

"We meet with catarrho-rheumatic ophthalmia much more frequently in old persons than in the young or middle aged.

"*Treatment.*—The successful treatment of this disease does not depend so much on any new remedies, as on a proper selection of some of the means formerly recommended, either for the catarrhal or for the rheumatic ophthalmia.

"1. Venesection. This appears to be as necessary in the catarrho-rheumatic as in the pure rheumatic cases; and is attended by as remarkable relief to all the symptoms, especially to the circumorbital pain. According to the severity of the case, and the age and constitution of the patient, from ten to thirty ounces of blood may be taken from the arm; and the same quantity on the day following, if the symptoms are not greatly relieved.

"2. Leeches to the temple are also highly useful, particularly when applied soon after venesection.

"3. Scarification of the conjunctiva of the eyelids proves useful in cases of chemosis.

"4. Calomel and Opium. The same good effects are derived from this combination in this ophthalmia, as in the pure rheumatic. The dose, and the length to which the calomel should be pushed, are the same.

"5. Opiate Frictions on the forehead and temple, about an hour before the expected attack of circumorbital pain.

"6. Belladonna, so as to keep the pupil dilated.

"7. Blisters behind the ear, or to the nape of the neck.

"8. Purgatives, such as a brisk dose of calomel and jalap at the beginning, and a gentle laxative every morning during the course of the disease.

"9. Sudorifics; such as Spiritus Mindereri, diluent drinks, the warm pediluvium, and a flannel under-dress.

"10. Tonics; such as Cinchona and the Mineral Acids, in the chronic stage of the disease.

"11. Solution of Nitrate of Silver. As in the catarrhal, so in the catarrho-rheumatic ophthalmia, the solution of from two to four grains of nitrate of silver in one ounce of distilled water, dropped upon the conjunctiva once a day, relieves the feeling of sand, and speedily removes the other symptoms of conjunctivitis. This application, however, has no effect on the sclerotic part of the disease; and I should conceive it a very dangerous mistake to trust to this remedy almost alone, as we may safely do in pure catarrhal ophthalmia, and to neglect the appropriate means for reducing the attendant inflammation of the sclerotica.

"12. Vinum Opii. Before the catarrhal part of this disease is subdued by the solution of nitrate of silver, this remedy rather aggravates the symptoms. After the conjunctivitis and the acute sclerotitis have yielded, it operates favourably, as in the chronic stage of the pure rheumatic ophthalmia; affording thus a good illustration of the remark of Boerhaave—'Nullum ego cognosco remedium nisi quod tempestivo usu fiat tale.'

"13. Collyrium Muriatis Hydrargyri, one grain to eight ounces, to be used milk-warm three or four times a day.

"14. Unguentum Præcipitati Rubri, smeared along the edges of the eyelids at bedtime. These I employ as part of the treatment suitable for the conjunctival part of the disease.

"15. With respect to the treatment of onyx, I would recommend the lancet not to be used for evacuating the purulent fluid effused between the lamellæ of the cornea. In every case in which I have evacuated the matter with the lancet, partial or total staphyloma has been the result. In one case I left the matter to itself, and certainly no case could be more alarming in its progress, nor more unexpectedly happy in its results. I attributed the success which attended this case in a great measure to the sorbefacient influence of the calomel over the effusion into the pupil,—to the continued use of belladonna,—and to the gradual preparation of the cornea by nature for its giving away, and for its healing up; a preparation which would probably have been entirely defeated, had I ventured, as I had done in a number of previous cases, to open the onyx with the lancet."—*Johns. Journ.*

ART. III.—*Cases illustrative of the Pathology and Surgical Treatment of some of the Diseases of the Testicle; with Observations. By B. C. Brodie, F.R.S. &c.*

HÆMATOCELE.

Systematic writers have applied the term Hæmatocele, first, to those extravasations of blood which take place within the tunica vaginalis; secondly, to extravasations into the cellular texture of the scrotum; thirdly, to extravasations into the cellular texture surrounding the spermatic chord.

But these cases are essentially different from each other. The two latter correspond to common ecchymosis, and the former alone can be regarded as peculiar to the testicle, or its appendages. In this paper the term is employed in the first sense only,—that is, as signifying an extravasation of blood into the tunica vaginalis.

1. Hæmatocele may take place where the parts are previously free from disease; a blood-vessel being ruptured either in consequence of a blow or strain; or spontaneously, that is, without any evident cause. Under these circumstances, if the extravasation has taken place only to a small extent, it may, if left to itself, in the course of some months, or after the lapse of one or two years, become gradually absorbed. If, however, the extravasation be very considerable, such complete absorption does not take place, and more or less of the tumour remains ever afterwards, or at any rate for several years.

Case 1. *Hæmatocele from accidental Injury, in which no Operation was performed, and only a partial Absorption of the Tumor took place.*

H. K—, about thirty years of age, on the 20th of September 1820, received a blow on one testicle. The testicle immediately became swollen, and the swelling very soon was equal in size to a goose's egg. I saw him a few days afterwards, in consultation with another medical gentleman, and we recommended the application of spirituous lotion, and that he should remain in a state of rest. Some time afterwards we prescribed friction with mercurial ointment and camphor. The tumor, however, remained unaltered for upwards of a year; at the end of which time it began spontaneously to diminish in size. The diminution proceeded slowly until about two-thirds of the tumor had disappeared, and then ceased. From

the beginning of the year 1825 to August 1826, there was (as I am informed) little or no alteration in it. At this last period, the testicle was to be felt in a natural state, and the tumor was perceived as a hard mass adjoining the testicle, but not confounded with it; whereas formerly the tumor and the testicle were not to be distinguished from each other.

Here, although a considerable part of the extravasated blood remained at the end of six years, there is no reason to believe that this was attended with any injurious circumstances to the testicle itself. The following case, however, would lead us to suspect that a large hæmatocele cannot be allowed to remain, in all instances, with the same impunity.

Case 2. Case in which there was reason to believe that the Patient had laboured under an Hæmotocele of long standing, and in which the glandular Structure of the Testicle had disappeared, probably in consequence of the long-continued Pressure of the Extravasation.

In examining the body of an elderly negro, who died in St George's Hospital of a disease in his lungs, and in whom also the arteries were found to be extensively ossified, I observed a large tumor on the right side of the scrotum, which had the shape and appearance of a hydrocele, and which gave to the touch a distinct feeling of fluctuation. On further examination, it was found that the tumor was formed by the tunica vaginalis distended with about twelve ounces of fluid, having the appearance of coffee grounds, with numerous masses of solid substances, manifestly fragments of coagulum, floating in it. The tunica vaginalis itself was much thickened. The substance of the testicle, the tunica albuginea, and the tunica vaginalis immediately covering it, were entirely destroyed; so that not a vestige of these parts could be discovered. The vas deferens adhered to the posterior part of the tumor, and was imperceptibly lost at the part where it usually joins the testicle.

Another case, exactly corresponding to the one just described, has lately fallen under my observation. The appearances on dissection were precisely similar; but here also I unfortunately lost an opportunity of learning the history of the case during the patient's life-time.

Cases of this variety of hæmatocele, in which, from the large size of the tumor, there is reason to believe that the extravasation is not likely to become absorbed, may be treated by making a similar puncture with a lancet. The four following cases are selected as illustrating the various effects produced by this method of treatment.

Case 3. *Hæmatocele occurring spontaneously, in which the Tumor having been punctured by a Lancet, Inflammation of the Tunica Vaginalis took place, followed by Suppuration, and the Patient was cured.*

W. Cook, nineteen years of age, admitted into St George's Hospital on the 27th of December 1815. Seven months before his admission, he observed a swelling in the situation of the right testicle. The swelling took place without any evident cause, and suddenly, so that in the course of some hours the testicle appeared to be of twelve times its natural bulk. There was little or no pain. After this the swelling remained unaltered, until about five weeks previous to the man's admission into the hospital, when it was punctured by a surgeon whom he consulted. Some bloody fluid was evacuated, but the swelling did not wholly subside, and it again increased after the puncture.

At the time of the patient coming to the hospital, there was a tumor in the situation of the testicle, of ten or twelve times the size of the latter. The fluctuation of fluid was distinct at the upper and anterior part; the rest of the tumor was evidently composed of solid substance.

December 29th, a puncture was made with a lancet, and about four ounces of bloody fluid were evacuated. A considerable quantity of solid substance remained after the fluid was drawn off. The puncture healed by the first intention.

Inflammation follwed the operation. Fluid was again collected within the tunica vaginalis. On the 10th of January 1816, an abscess burst, discharging pus, with portions of half-dissolved coagulum floating in it.

The abscess continued to discharge matter with portions of half-dissolved coagulum; and, as this discharge continued, the bulk of the solid tumor became diminished.

In the course of a few weeks the discharge ceased, the abscess healed, and the patient was discharged, with little or no swelling left.

Case 4. *Hæmatocele, in which Inflammation and Suppuration followed the Puncture of the Tunica Vaginalis, and the Patient was cured.*

James Roles, sixty years of age, admitted into St George's Hospital, October 1st 1817. A month before his admission, he received a blow on his left testicle. A swelling immediately took place, which gradually increased for some hours, and afterwards remained, with little or no pain, and without undergoing any sensible alteration, up to the day of the man being admitted into the hospital.

At this time there was a swelling, of an oval form, in the situation of the left testicle. Fluid was distinguished at the anterior part,

and the testicle was to be felt at the posterior part, occupying the same place as in hydrocele.

October 2d.—I punctured the tumor with a lancet. About three ounces of dark-coloured grumous fluid were evacuated; but this did not cause the whole of the tumor to disappear.

The wound made by the lancet did not heal by the first intention. Considerable inflammation and swelling of the scrotum, and skin and cellular membrane of the penis, ensued. A serous, and afterwards a purulent fluid, deeply tinged with blood, was discharged through the opening. By degrees the discharge became less discoloured: on the 15th of October, it consisted of pure pus, and the inflammation of the penis and scrotum had in a great degree abated.

18th.—Pus continued to be discharged through the puncture. A collection of pus was discovered in the lower part of the tunica vaginalis, which did not really escape through the original opening. A fresh opening was made in this situation, and a good deal of pus escaped.

The abscesses were slow in healing, and it was not until nearly the end of November that the patient was dismissed from the hospital as cured.

Case 5. *Hæmatocele, in which Inflammation of the Tunica Vaginalis followed the puncture of the Tumor, terminating in a Cure without the formation of Abscess.*

Jacob Hill, sixty years of age, was admitted into St George's Hospital, under the care of Mr Keate. He had a tumor in the situation of one testicle, of a pyramidal form, having a good deal of the character of a common hydrocele, except that, when a lighted candle was placed behind it, it was found to be perfectly opaque. There was no pain in the tumor, but some pain in the loins.

The patient said that, a year before his admission into the hospital, he had strained himself in lifting a heavy weight, and that the swelling immediately followed this slight accident, but became larger afterwards.

Mr Keate punctured the tumor with a trocar, and drew off ten ounces of dark-coloured bloody fluid. Little or no solid substance remained after the fluid was evacuated.

The wound made by the trocar healed by the first intention. Nevertheless, inflammation of the tunica vaginalis took place to about the same extent as after the injection of a hydrocele. When this inflammation had subsided, and the swelling dependent on it had disappeared, there were found no traces of the original disease, and the patient was discharged as cured.

Case 6. *Hæmatocele, in which the Tunica Vaginalis was several times punctured without Suppuration being induced, and the Patient died of another Disease; with the Appearances on Dissection.*

I saw this patient with my friend and colleague Mr Jeffreys, through whose kindness I also had the opportunity of examining the appearances on dissection.

A. B—, fifty-seven years of age, in the summer of 1825 received a blow on one testicle, which was followed by a swelling of the size of a goose's egg. This swelling had begun to diminish, when some time afterwards he received another blow, which was followed by an additional swelling. In April 1827, when he came under the care of Mr Jeffreys, there was a large tumor in the situation of the left testicle, manifestly containing fluid. Mr Jeffreys punctured the tumor, and several ounces of fluid were drawn off, manifestly blood in a state of dissolution. The tumor, however, did not disappear entirely. Fluid became again collected, and the tumor was again punctured. The operation was repeated twice more; the bloody appearance of the fluid drawn off each time being less distinct than it was the time before.

In the beginning of June the patient was unfortunately seized with erysipelas of the head, attended with some very severe symptoms, and of this disease he died on the 15th of June.

On dissection, the tunica vaginalis was found much thickened, and it contained nearly an ounce of bloody serum. The internal surface of the tunica vaginalis was irregular, and had portions of what appeared to have been coagulum of blood adhering to it. Towards the upper and outer part of the testicle, a pendulous pyriform tumor, of the size of a hazel-nut, was attached by a narrow neck to the inner surface of the tunica vaginalis. The tumor was covered externally by a smooth (and apparently secreting) membrane; but internally it consisted of a mass of coagulated blood, not very unlike that which is found in the sac of an aneurism.

II. Hæmatocele occurs not unfrequently in combination with hydrocele, a circumstance easy to be accounted for when we consider that, in cases of this last disease, the increased bulk of the parts must render them particularly liable to suffer from accidental injury.

In the majority of cases only a small quantity of blood is blended with the fluid of the hydrocele, and a cure is effected by a very simple process. The tumor may be punctured with a trocar, and the fluid drawn off in the usual manner. This operation may be repeated whenever the fluid is again accumulated, until the whole of the blood has become dissolved, and the red tinge in the fluid drawn off has disappeared; after which port-wine and water, or some other stimulating fluid, may be injected, as in ordinary cases of hydrocele.

In other cases, however, where a large extravasation of blood has taken place, a cure by the method just described is either very tedious or absolutely impracticable, and it is necessary to resort to a more serious operation.

Case 7. Hæmatocele existing in combination with Hydrocele; both Diseases being cured by the Incision of the Tunica Vaginalis.

James Webb, thirty years of age, admitted into St George's Hospital July 17th 1824. Nearly two years before his admission, he first observed a swelling, unattended by pain, in the situation of the left testicle. The swelling was at first trifling, but gradually increased in size, giving no inconvenience except what arose from its bulk, and having all the characters of common hydrocele.

A week before his admission into the hospital, while making an unusual exertion in loading hay, he experienced a sensation as if something had burst into the scrotum, and the tumor became suddenly very much increased in size. In the evening of this day, he was seen by Mr Rose, of High Wycombe, who directed the application of a spirituous lotion. Two or three days afterwards, Mr Rose made a puncture with a trocar, and drew off a considerable quantity of bloody fluid. The tumor, however, still remained of a large size.

At the time of the man being admitted into the hospital, there was a tumor in the situation of the left testicle, of an oval form, but somewhat smaller above than below. Measured from above downwards, the length of it was about eighteen inches, and its transverse diameter was about five or six inches. In most parts the fluctuation of fluid was distinctly perceptible, but in other parts it seemed to consist of solid substance. The spermatic cord was free from disease, and the general health was unaffected.

On the 23d of July, I made a longitudinal incision, several inches in length, into the tunica vaginalis. It was found distended with a dark-coloured bloody fluid, having fragments of coagulum floating in it. When the contents of the tunica vaginalis had escaped, the membrane itself was found to be thickened, and the inner surface of it was every where encrusted with layers of coagulum, at the same time bearing the marks of considerable inflammation. A good deal of the cellular membrane of the scrotum was in a sloughy state. The testicle itself was seen in its natural situation, and apparently healthy.

A portion of the skin and tunica vaginalis were removed with the knife, and the parts were dressed with dry lint in contact with the tunica vaginalis.

No unfavourable symptoms followed the operation. Suppuration took place of the inner surface of the tunica vaginalis; the parts contracted; and in a few weeks the patient left the hospital as cured.

Case 8. *Hæmatocele combined with Hydrocele; both Diseases cured by the Incision of the Tunica Vaginalis.*

James Mason, fifty years of age, admitted into St George's Hospital, July 19th 1826. There was a tumor, of the size of a large melon, in the situation of the right testicle. The tumor was ponderous, opaque, evidently containing fluid, though the fluctuation was less distinct than in a common hydrocele. The testicle was perceptible at the posterior part, where pressure gave to the patient the peculiar sensation which arises from squeezing the testicle under ordinary circumstances.

He said that, in the summer of 1821, he first perceived a swelling connected with the right testicle, which gradually increased without pain or tenderness. In May 1823, a surgeon introduced a trocar, and drew off a considerable quantity of transparent fluid. In a short time after the puncture, the tumor returned, and increased gradually as before. On the 14th of May last, he was carried to bed in a state of intoxication. He had no recollection of having received a blow, though this might well have happened without his being conscious of it. When he awoke in the morning of the 15th of May, he found the tumor increased to an enormous size, and the scrotum of a livid colour. His attention was called to it, not by pain, but by the sudden addition to the bulk of the scrotum. After this, instead of increasing further, the tumor gradually and slowly diminished up to the time of the man being admitted into the hospital.

On the 21st of July, I made a free incision into the anterior part of the tunica vaginalis. A large quantity of bloody serum immediately escaped, and numerous masses of coagulum were then removed with the fingers. The tunica vaginalis having been emptied, the testicle was discovered, apparently healthy, at the posterior part. Lint was placed between the edges of the wound, with some simple dressings over it, and the patient was directed to remain in bed.

July 22d and 23d.—He was going on well.

24th.—In the evening, he was seized with a rigor, followed by heat and thirst, and increased frequency of pulse.

On the following day, the pulse was frequent, the skin hot and dry, the tongue dry, and inclined to a brown colour; the scrotum was inflamed and swollen. The inner surface of the tunica vaginalis was in a state of suppuration.

The inflammation of the scrotum extended to the skin and cellular texture of the penis, and was attended with a good deal of febrile excitement of the system. In about a week these symptoms began to subside.

An abscess, however, formed in the cellular texture at the posterior part of the scrotum, which was opened on the 11th of August: This abscess healed readily. The cavity of the tunica vaginalis be-

came gradually obliterated by granulations ; and, on the 6th of September, the patient left the hospital, at which time the scrotum was reduced to nearly its natural size, and there were no marks of disease except a small superficial ulcer, which healed in a few days afterwards.—*Lond. Med. & Phys. Journ.*

ART. IV.—*Observations on an Affection of the Mouth in Children. By Thomas Cuming, M.D. Assistant Physician to the Institution for the Diseases of Children, &c.*

The affection in question is a peculiar kind of ulceration of the gums and cheek, to one variety of which authors have given the name of cancrum oris. In general it commences in the gums, and extends to the lips and cheek ; but sometimes takes the reverse course. It is most liable to attack during the first dentition ; but is frequently met with in children from three to seven years of age.

" When the disease occurs in infants on the breast, it is generally attended with a purplish and spongy appearance of the gums and roof of the mouth, and the ulceration, which lays bare the necks of the teeth, both externally and internally, is of a greenish or ash colour, and very much disposed to bleed. The salivary discharge is increased ; the tongue is white ; the mouth feels hot ; the bowels are for the most part confined, and the child in general labours under a greater or less degree of fever. I have not seen this form of the disease previously to the irruption of the four superior incisors, but I have frequently seen it when the child had only six or eight teeth ; and I have constantly observed that when it occurs thus early, it is always the upper gum that is first and principally attacked. This I consider to be the mildest and most manageable form of the disease. As the bowels are for the most part confined, the necessity of a purgative is clearly indicated, and I have generally found that after free alvine evacuation the fever subsides, the mouth becomes cool, the gums lose their red and spongy appearance, and the ulceration speedily heals. In such cases as the above I have seldom found it necessary to make use of any local application. Where, however, the ulcers seem indolent, and little inclined to heal after the repeated administration of purgatives, a little honey of borax, or a mixture of muriatic acid in honey, in the proportion of a drachm to the ounce, may be advantageously applied by means of a feather or camel's hair brush to the ulcerated surface. This disease is very apt to return when the state of the bowels is not particularly attended

to. As the biliary secretion seems frequently to be defective either in quantity or quality, I consider small doses of mercurials, followed by occasional aperients, to be amongst the most likely means of confirming the recovery and preventing a relapse."

The most formidable variety is that which occurs in children between twenty months and seven years of age—the subjects being generally of a pale, sallow, or bloated and unhealthy appearance, with irregular bowels, and having had scanty food and bad clothing. The disease is more observed at the close of the exanthemata than at that of any other acute affection. Dr Hall, who has published a paper on this subject in the Edinburgh Journal, makes similar observations. In this variety, the ulceration is usually confined to one side of the mouth—is extremely foul—spreads rapidly to the lips and cheek, destroying apparently by gangrene and absorption. If the disease continue long, the teeth fall out, in consequence of the devastation of the gums and alveolar processes. In some cases, the jaw-bone is destroyed. The tongue takes on a similarly diseased action, and is wholly or partially destroyed, so that the unhappy patient exhibits the most horrible spectacle that can be imagined. The disease, however, is frequently in a milder degree than this.

Dr Hall queries whether this disease may not be caused by the calomel so frequently administered to children in the present day. Dr Cuming, having observed the cancrum oris in a child after the administration of calomel pretty freely for a hydrocephalic affection, was of a similar opinion with Dr Hall; but, says he, "I have seen so many cases since of a precisely similar kind, where there was no reason to suppose that mercury had been administered, at least to any extent, that I am strongly disposed to doubt whether there be any necessary connexion between the appearance of the disease and the previous administration of mercury. Indeed our author frequently has recourse to mercury, both as an alterative and a purgative for its removal.

The treatment appears to consist chiefly in clearing the bowels and keeping the secretions in as healthy a state as possible, by the "alternation of mild mercurials with aperients." The local applications which Dr C. has found most useful are, the black wash, and a dilute solution of muriatic acid in honey—a drachm to the ounce. As soon as the general health is established, the ulceration assumes a healthy appearance and heals. In that variety, however, in which gangrene is predominant, the fatal termination is almost certain, whatever means we may use*.

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* London Medico-Chirurg. Review for July 1827.

Intelligence.

Bibliographical.

We are happy to announce that Jonathan A. Allen, M.D. Professor of Materia Medica in the Vermont Academy of Medicine, is about to publish a System of Pharmacology, designed for the use of the Vermont Academy, and also as a Manual for the Practitioner of Medicine. The design and arrangement of the work are judicious, and we doubt not that the author will furnish a correct and useful book. It will be put to press immediately, and be ready for subscribers on the 1st of September 1828.

We also understand that Mess. Towar & Hogan of this city have in press a work entitled "Conversations on Anatomy, Physiology, and Surgery. By A. Robertson, M.D. Lecturer on the Practice of Physic. First American Edition, with Pathological and other Additions. In 2 vols."

Abstract of Foreign Medicine.

PATHOLOGY AND THERAPEUTICS.

Disease of the Nails (Sir Astley Cooper).—Of the Nail. When this part is separated by putrefaction, and its internal surface is examined, it is found to be divided into three parts: viz.—1st, a hollow and nearly smooth white surface, at its root; 2dly, a hollow white laminated surface, in its middle; 3dly, a hollow, brownish, and less distinctly laminated portion, near its extremity.

Of the Ungual surface beneath the Nail.—This is divided into two parts. Opposite to the hollow at the root of the nail is placed a highly vascular and villous surface, which I call the ungual gland, and the portion of the nail over the surface is thinner than the rest. Beyond this secreting surface appear a number of laminæ, like the under part of the mushroom, which are parallel with those placed in the inner part of the nail, and which pass in the direction of the axis of the finger. The parts of the nail usually cut project beyond these laminæ.

The ungual gland is a very vascular surface, and its use is to secrete the nail which proceeds from it between the laminæ placed before it; so that the nail grows from its root, as may be easily seen by cutting a notch there, which grows gradually out in about three months, advancing until it reaches the extremity of the nail. The growth of a new nail also illustrates this position.

The laminæ situated anteriorly to the secreting surface, and upon the third phalanx of the finger, are highly vascular, as far as the adhesion of the nail extends; but beyond this the cuticle of the end of the finger turns in to unite itself to the laminæ. Their vessels are arteries and veins, the latter of which form a plexus, with very frequent communications. The nail adheres to the finger by the cuticle, and it therefore separates by putrefaction and boiling: it also adheres at its root to the secreting surface which produces it; and, above all, it adheres by its laminæ being received between the living laminæ beneath. Opposite to the root of the nail, the cutis and cuticle are double, and turn inwards; so that a considerable portion of the nail is covered by the common integuments. The cuticle unites to the nail; the cutis passes under it, to produce the secreting surface and laminæ,—it is vascular and villous, that it may secrete the nail; vascular and laminated, in order to produce the adhesion of the nail to the skin.

On the diseased Growth of the Nail.—The nail sometimes grows broader than it ought, and it then produces ulceration by the pressure of its edge, which is followed by an irritable and fungous granulation. As this state arises from the breadth of the nail, and its consequent pressure, it sometimes continues for months, or even for years; yet it will yield to proper treatment in two or three weeks. The common mode of relief consists in cutting a notch in the centre of the nail; in scraping its extremity thin; in putting it frequently in warm water, and in putting a piece of lint under its projecting edge: but this mode often fails in producing a cure, and frequently is only a temporary relief. In obstinate and difficult cases of this unnatural growth of the nail, I have, for thirty-five years, recommended and practised the plan of cutting away the edge of the nail with scissors, from its extremity to its root; by which a cure is often produced in a few days, and in the worst cases in two or three weeks. A poultice only is afterwards required.

Of disease in the Ungual Gland.—In diseased states of the constitution, the secreting surface which produces the nail gets into a morbid state, and, instead of a healthy nail being formed, it throws out one which is black, everted, unadherent, and which so irritates the vascular surfaces as to produce an irritable, sloughing, and very painful sore, which renders the patient lame, so as to prevent his gaining his daily bread. As this is a constitutional as well as local disease, it becomes necessary to employ constitutional and local means of treatment. My usual plan is to give a grain of calomel, with a grain of opium, night and morning, with the decoctum sarsaparillæ compositum; and to apply the liquor calcis 4 oz. with calomel 1 drachm, by means of lint with oiled silk over it. This plan often succeeds; and, if it does not, it destroys the predisposition to the disease.

After giving these constitutional remedies, if the sore does not heal, I have sometimes applied a blister to bring off the nail, and alter the action of the ulcer. But in hospital practice, where persons are anxious to return to their labour, and to have their disease quickly and effectually removed, I have always dissected away the secreting surface which produces the nail, and prevented the possibility of a recurrence of the disease.—*Johns. Journ.*

Case of Cephalalgia in which Iodine was exhibited (*Dr Gibney*).—Ann Slater, æt. 24, was admitted a patient September 26th. She complains of severe pain in the head, extending across the forehead, particularly on the right temple, which became worse at night; pupils dilated, even on exposure to light, and she seems of a very heavy disposition; pulse, tongue, catamenia, bowels, all regular; has suffered some months; never gets giddy. Appl. empl. cantharid. nuchæ, et postea ung. sabinæ. Capt. pil. hydrarg. et ext. aloes spic. aa, 3 gr. omni nocte et mist. aper. 2 oz. omni mane.

October 3d. No improvement. Pergat. R. Ext. belladonnæ, 1 scruple. Cerat. cetacei, 1 oz. M. ft. ung. tempori applicand.

17th. The ointment *at first* gave decided relief, but lost its influence; her general health good. Capt. pil. aloes c. 10 gr. o. n. et decoct. aloes c. 1 1-2 oz. omni mane.

21st. The medicines opened her bowels freely, but pain in the head as bad as ever. Appl. hirudines vj. tempori.

R. hydrarg. subm. 3 1-2 gr. Opii, 1 1-2 gr.. Ft. pil. omni nocte sumend.

24th. The calomel and opium pills salivated her, which did her a little good, and the leeches relieved the pain for a time; her eyes have not the fixedness with dilated pupil as formerly; functions continue natural. Rep. pil. et hirud. capiat mis. aperien. 1 1-2 oz. omni mane.

November 15th. Has (to use her own expression) continued better and worse, except when salivated, which certainly relieved her a little.

R. Tinct. iodinæ, 1 1-2 drachms. Inf. calumb. 7 oz. Tinct. sennæ, 5 1-2 drachms. M. Capiat 1 oz. ter quotidie.

December 7th. The iodine seems to have entirely removed her complaint, and she was discharged cured.

Most probably there was some pressure on the optic nerves, which was removed by the influence of the calomel and opium, or iodine, or perhaps both; but she had taken the iodine only four days before she received great benefit.

Papular and Crustaceous Psoris (*M. Alibert. Hôpital St Louis*).—*I. Psoris Papulosa.* This species presents two varieties, the P. formicans and P. pedicularis. The former we shall notice on a subsequent occasion. It is with P. pedicularis we have now to do.

P. Pedicularis. This has been always confounded with P. formicans, observes M. Alibert, but although it has the same march and termination, it differs, by the production of an insect, which forms its essential character, and which modifies the treatment.

Case 1. Loyer, aged 44 years, of very sanguineous temperament, had been affected with some cutaneous complaint a few years ago; and it was for a fresh and aggravated attack that he now entered the St Louis, covered with eruptions

and devoured by vermin. There was seen issuing from beneath the epidermis, a prodigious quantity of lice. Several baths were administered; and on coming out of the water, the papulæ were found shrunk, and only brown spots remaining on the skin. When warm, and especially after the baths, he experienced the most insupportable sensations of formication. He assured M. Alibert that he felt the vermin bite and tear him far beneath the surface of the skin, particularly between the shoulders, under the armpits, on the arms, and about the knees. The patient exhaled the odour, *sui generis*, and peculiarly repugnant to the olfactories of the attendants. It was observed that the baths produced two distinct effects: —sometimes it caused the issue of a prodigious quantity of vermin, that swarmed over his body and among his clothes:—sometimes the vermin disappeared after the bath, with a great increase of the pruritus. This difference was attributed to the difference of temperature of the water.

Case 2. This patient was 65 years of age, and had never experienced any severe malady. About 15 months ago, there appeared on various parts of his body a multitude of small elevations, of a red colour, and accompanied by intense itching, and an issue of pedicular vermin. The wretched man was forced to tear his skin, and yet without being able to allay the irritation, which harassed him day and night. The sensations were most distressing when there was a perspiration on the surface which seemed to heighten the sensibility of the skin. The eruption, the irritation, and the pedicular evolution would cease for five or six weeks, and then re-appear, to continue for a month or so. The unbroken papulæ resembled those produced on the skin by intense cold—those which were torn, resembled a small scale, and were encircled with a red areola.

Case 3. Bernard, aged 78, had long had an eruption on his face, before he was seized, four years ago, in the middle of winter, with intense pruritus over the breast, the upper part of the back, the thighs, and scrotum. Tepid baths, bloodletting, and cooling diluents soon dispersed these symptoms; but they were renewed, with aggravation, the two following winters. In 1824, almost the whole surface of the body, except the hands and face, was covered with eruptions, and became the seat of intense itching. The papulæ, at first red, were soon excoriated, and covered with greyish crusts. When these were detached, small lice were seen to issue from the larger papulæ, and these vermin soon multiplied prodigiously. The miserable patient had scarcely an interval of repose. Each part of the body became alternately the seat of irresistible irritation, and violent stinging sensations. Towards night, especially, the unhappy Bernard was in a state of anguish insupportable, tore his flesh with his nails—and rubbed himself violently with a hard brush!

Although this poor old creature had scarcely two hours sleep each night, yet his health did not seem deteriorated, nor his appetite impaired. His digestion was good; and he had only an obstinate constipation of bowels, the usual attendant on pruritus. Venesection, leeches, opiates, warm baths, diluent drinks, and great attention to cleanliness were employed; but it required six months assiduous treatment, on this plan, to effect a complete cure. The simple warm bath produced more benefit than all the other means together. It is worthy of remark that, in proportion as the cutaneous malady gave way, the bowels became more free, and in the end, the patient had eight or ten motions daily without taking any aperient. During the last three years, Bernard has enjoyed good health, and has had only some slight itching of the skin when he takes coffee, spirituous liquors, undiluted wine, or neglects, for any length of time, the warm bath.

II. Psoris Crustacea.—This is defined by M. Alibert, a pustular and crustaceous eruption, affecting the external parts of the thighs, arms, and sometimes the spaces between the fingers. It is often mistaken by the vulgar for the itch. It is almost always the product of want of cleanliness, or some particular avocation, and is not contagious. Its march is sometimes acute—sometimes chronic. This disease has not been sufficiently investigated, although it is very common in large cities, hospitals, manufactories, and garrisons. It generally commences in the form of large pustules, a little flattened, surrounded by reddish areolæ, which are converted into grey or yellow crusts. These pustules are sometimes vesicular, and some of them resemble the false vaccine. In general, however, they

are the size of a small pea, and contain a purulent or opake fluid, resembling that of small pox.

The pustules of P. Crustacea, have a slow march, and leave a permanent mark on the skin, but not a cicatrix. The itching occasioned by these pustules is of a burning character, from the beginning, and resembles the attendant on erysipelas. The skin is tense; and the itching almost entirely ceases when the crust becomes quite desiccated. This species of psoris is often developed without being productive of any disagreeable sensation. The circumstance of the pruritus going off, when the pustules have arrived at a state of maturity, is a distinction between this disease and scabies. The individuals on whom this eruption appears, are generally of a cachectic and scorbutic habit, and the cutaneous surface pale and relaxed.

Sometimes the psoris crustacea is only a temporary evil; but at other times, it is a permanent malady, or at least liable to very frequent relapses. In such cases, the skin becomes indurated and rugous. The patients generally enjoy good health in other respects, especially if the psoris is not of the acute kind. Five cases are given in illustration; but they need not be detailed in this place.

Warm baths constitute the basis of the treatment, both in the crustaceous and papular forms of the disease. The baths should be used, as detersives of the skin, and as the means of allaying irritation on the surface. Sometimes to excite gently, without irritating, emollient vapour-baths may be useful. As to internal remedies, they must vary, according to the state of the health, and the causes which have given origin to the malady. Sulphureous lotions have always, in M. Alibert's experience, tended to exasperate the cutaneous irritation. The alkaline baths, as those of Plombieres, are infinitely more useful for the papular psoris. Ointments, also, composed of the various precipitates of mercury, have proved very serviceable in M. Alibert's hands, especially for the pedicular eruption. The regimen should, in all cases, be extremely rigid. All heating, spicy, salt aliment should be entirely proscribed.—*Johns. Journ.*

Pathology of Chorea.—M. Serres having remarked, in the opening of the bodies of those who died from chorea, a tendency to inflammation of the corpora quadrigemina, was induced to experiment on animals, by wounding them in these parts, and which he observed to produce phenomena similar to those of chorea. M. S. has observed that chorea patients always complained of pain at the posterior and inferior part of the cranium: he has, in consequence, directed the application of leeches to that quarter in such cases, and with success.—*Lond. Med. & Phys. Journ.*

Muriate of Iron recommended in Softening of the Stomach.—In the *Heidelberg Klin. Annalen*, Dr de Pommer has related some cases of supposed softening of the stomach in infants, a disease to which the attention of the profession has recently been called, (see the paper of Dr Gairdner, in the Medico-Chirurgical Transactions of Edinburgh, &c.) in which he administered the muriate of iron with apparent advantage. We say supposed cases, because the actual condition of the stomach in cases terminating favourably must remain matter of conjecture, and all that we can venture to affirm is, that the symptoms of the children who survived were very similar to those in the children who perished, and in whom the coats of the stomach were found softened. In the cases which did well under the muriate of iron, there was constant vomiting, with frequent loose, fetid stools; moaning, and anxiety of countenance; but no tension of the abdomen, or tenderness on pressure. The following is the prescription recommended:—R. Rad. Alth. 2 oz.; Coq. c. aq. fontan. q. s.; Colal. 2 oz.; adde Pulv. Gum. Arab. 2 dr.; Ferri Muriat. 1 1-2 scr.; Syrup. Alth. 6 dr. M. S. Of this two teaspoonsful are given every hour, care being taken to shake the mixture each time.

Treatment of Inflammation by Tartarized Antimony.—This practice appears to gain ground more on the continent than in this country: we use anti-

mony, indeed, very freely in inflammatory affections, but always as auxiliary to bleeding. We have often heard it remarked, with reference to this subject, that treatment which might succeed in Italy would not answer in this country; but we find from the testimony of Dr Bang (*Bibliothek für Leger*), that it has proved successful in the north of Europe. Fifty-four patients were admitted at the Royal Hospital at Copenhagen with inflammatory affections of the chest. Forty-five of these had no other medicine besides the tartarized antimony; seven had other remedies in addition: all recovered except two. It is proper to state, however, as in our opinion materially affecting the conclusions to be drawn from the result of these cases, that the greater number were bled once before the remedy was begun.—*Ibid.*

Application of Medicines by the Skin.—Dr Martin, jun. has been lately occupied in experimenting on what the French call "la méthode endermique" of exhibiting medicines; and, in the Number of the *Revue Medicale* for September, he has published a Memoir on the Exhibition of the Sulphate of Quinine by the Skin in Intermittent Fevers. He gives six cases in which the remedy was thus administered, in all of which (except one, in which it was found necessary to give the medicine internally,) it proved successful.

The only objection to this plan appears to be, that a blister becomes necessary.

Dr M. draws the following conclusions: 1. That the sulphate of quina, applied to the dermis, denuded by means of a blister, stops the progress of intermittent fever, when nothing is opposed to its absorption.

2. This salt operates in three diseases by a general and specific, and not by revulsive or any local action.

3. The absorption is very rapid.

4. The salt thus absorbed suffices in smaller doses than when given by the stomach.

5. The sulphate applied to the skin in powder causes great inflammation.

6. The sulphate mixed with cerate causes scarcely any pain or inflammation.

7. This medicine, valuable for administering the quina to certain patients in simple intermittents, may become a great resource in certain cases of dangerous and obstinate fevers.—*Ibid.*

Loss of a Portion of the Windpipe, without Loss of Voice.—M. Cloquet, at a late meeting of the Royal Academy of Medicine, "*presented*" a hair-dresser, who had cut his throat with a razor. The wound was transverse, and had divided the windpipe in such a manner that two of the rings were entirely detached at their anterior part, and were only retained behind by a portion of cellular membrane. They were removed; the lips of the wound brought together by suture and bandage, and cicatrization took place without any fistula, although there was loss of substance, and the wound admitted the finger even when the head was bent. The voice was lost in the first instance, but afterwards returned, although it remained hoarse. Similar cases are mentioned by Larrey.—*Ibid.*

Application of the Hydrocyanic Acid in Cases of Herpes.—In a recent Number of Rust's Magazine, some cases are recorded of herpetic diseases, which were relieved by the external use of this remedy. A drachm and a half of the acid mixed with alcohol or rose-water, was the form in which it was employed. The latter was preferred where it was feared the alcohol might produce too great a degree of irritation.—*Ibid.*

Lotion for Dartres.—M. Lisfranc has lately used, with success, in cases of obstinate dartre, a lotion composed of a solution of the Chloride of Soda. He first subdues the symptoms of inflammation, and then uses the lotion.—*Ibid.*

Extraction of Morphia from dry Poppy Heads; by M. Tilloy.—Make an aqueous extract of the heads, add alcohol to the extract, separate the alcoholic

solution, and distil it; by this means the gummy matter is separated. An extract like syrup will be obtained by the distillation, which, being heated to make it thinner, and of the consistency of treacle, is to be again treated with alcohol; a separation of more gum, with much nitrate of potash, will be effected. The solution being withdrawn, is to be distilled, and the extract which will remain is to be acted upon by a sufficient quantity of water, and filtered, to separate the resinous matter present. The morphia may then be separated from this liquid, either by ammonia, carbonate of soda, or magnesia. Ammonia does not precipitate all the morphia; carbonate of soda precipitates a large quantity, but it separates resinous matter also, which is found mingled with the morphia. Magnesia is preferable; but, as the liquid contains much free acetic acid, it is expensive to employ the necessary quantity of pure magnesia: the liquid may therefore be partly saturated, whilst hot, by carbonate of magnesia, or even by carbonate of lime. A judgment, when no more is to be added, must be formed from the effervescence; then pure magnesia is to be added, which will cause the liberation of ammonia; the whole is to be left for twenty-four hours to cool; being then filtered, the precipitate is to be washed, and when dry, acted upon by alcohol. Operating in this manner, morphia may be obtained from all kinds of poppies.—*Ibid.*

MIDWIFERY.

Action of Borax on the Uterus.—Two German physicians, Burdach and Wigand, have recommended borax in difficult labour, in consequence of which Dr Van Kranendonk, of Delft, has been induced to use it in numerous cases, in most of which he has found the pains become more regular and more powerful under its exhibition; but he does not feel satisfied that this effect was always caused by the remedy in question. The Editors of the work in which his observations are detailed (*Tijdschrift-voor Genees verlos en Scheikundige Wetenschappen,*) have appended a note, in which they state that, for some time back, there has been a prodigious consumption of borax among the quacks in Holland; and they recommend great caution in experimenting with this medicine.—*Ibid.*

Accouchement after the Death of the Mother.—Dr Klaatsch, of Berlin, has related (in the *Zeitschrift für die Staatsarzneikunde,*) the case of a pregnant female, who was supposed to have been poisoned by her husband with arsenic, in consequence of which suspicion the body was disinterred a month after it had been buried. The fact of her having been poisoned was thus ascertained, and at the same time the phenomenon was discovered of a fœtus, about the seventh month, lying between the thighs of the woman; the accouchement having taken place after her death. To explain this circumstance, and similar cases related by various authors, Dr Klaatsch supposes that the extrication of a quantity of gas in the intestines becomes a mechanical cause of the expulsion of the fœtus, accompanied in general with inversion of the uterus, which is facilitated by the complete state of relaxation of that organ. The same opinion was advanced by M. Deneux, in a memoir on this subject published in 1822.—*Ibid.*

CHEMISTRY.

Adulteration of Sulphate of Quina with Sugar.—M. Winkler has found sulphate of quina, in commerce, adulterated with sugar. The quantity of adulteration was ascertained by dissolving the salt in water, precipitating the quina, by carbonate of potass, filtering the liquid, evaporating to dryness, and digesting the residuum in alcohol. This fluid left the sulphate and carbonate of potash, but dissolved the sugar, and by evaporation the latter was obtained in its separate state.

M. Winkler has also met with benzoic acid adulterated with sulphate of lime in crystals.—*Lon. Med. & Phys. Journ.*

It has been discovered that the addition of sulphuric or nitric acid to rhubarb produces a precipitate which is called rheine, a principle of peculiar properties.

SURGERY.

Chloruret of Lime in Purulent Ophthalmia. (*Dr Varlez of Brussels*).—All remedies occasionally failed till this remedy was used. Half a drachm of the salt dissolved in an ounce of distilled water was applied in small quantities to the inner surface of the eyelid and to that of the eye with a camel hair pencil, and cold water by compresses over the closed eye. V. S. cups, purges, calomel, &c. pediluvia were used at the same time. Out of 400 cases he was not disappointed in one case. He applied it to the extent of 3 and 4 drachms to the ounce of water, when the patient did not complain of pain.

Chlorides of Soda and of Lime (Lisfranc. La Pitié).—M. Lisfranc lays down the following propositions.

1. The chlorides of soda and lime are excitant substances, capable of inducing inflammation; but it would not be prudent to apply them too near to organs, inflammations of which might be hazardous.
2. These chlorides have the property, superior perhaps to all other substances, of inducing that kind of inflammation which throws out a plastic secretion quickly convertible into false membrane, and consequently producing adhesion or agglutination of the parts.
3. These chlorides tend to awaken the organic sensibility in portions of skin completely denuded of cellular tissue, and to cause them to adhere to the subjacent parts, when all other means have failed. Thus losses of substance are prevented in parts where, under other treatment, the cicatrization would prove a deformity.
4. Employed for the cure of fistulæ, the chlorides, in a third degree of strength, diminish, sometimes immediately, the process of suppuration—sometimes they suppress this process instantaneously. It is in this way they prove successful. When they fail to produce this effect, their strength should be augmented—when they excite inflammation too intense, they must be discontinued for a time, and afterwards tried in a more dilute state.
5. By these chlorides, M. Lisfranc has cured many callous fistulæ, which could not be cured by other means.

Four cases are related as examples from among a great many of a similar kind. We shall give a short abstract of these.

Case 1. John Sanquet, aged 27 years, was admitted into the hospital, on the 9th of January 1826. Six weeks previously he had an abscess in the loins, which was opened. A fistulous canal, more than three inches in length, existed, the skin covering which was thin, discoloured, and below the natural temperature—the sides and orifice were callous. Injections of the chloride of soda, in the third degree of strength, were prescribed, and allowed to remain for some time in the canal. These injections were renewed three times a day, and lint moistened with the solution was kept over the fistulous orifice. On the 11th the suppuration, which had been abundant, was reduced one half. The patient had experienced some smarting in the fistula. 12th. Some degree of compression was employed. On the 14th the strength of the solution was increased—and by the 21st the cure was complete.

Case 2. M. Cauvait, aged 44 years, was received into La Pitié, on the 24th of November, for an abscess on the upper and outer part of the leg, which had existed two months. It had been opened and another opening had been necessary

near the outer ankle. A fistula existed between the two openings. Injections were used, but they produced no effect. Their strength was then increased, and they excited inflammation, for which poultices and fomentations were necessary. When this was over, the injections were again employed, and the cure was soon effected.

Case 3. A young lad was received into hospital in March 1826, for a fistula situated in the thick part of the thigh, the tract of which was four inches in length, penetrating among the muscles. This had existed for two years. Six injections of the chloride of lime were used, of the third degree, but with no effect. They were then increased in strength, and some pain was produced. In three days the suppuration was reduced one half. The injection was continued to the 26th of March, when the fistula was completely cured. He was discharged a few days afterwards.

Case 4. Guygny, aged 52, was received on the 12th of April 1826, having been affected more than six months, with several fistulous ulcers. One was in the thigh, a little above the knee, running up four inches among the muscles. The skin covering the fistulous canal was of a blue colour. There were several other sinous sores in the same limb. She had been under treatment in the city for two or three months, without any benefit. Leeches were first applied, with poultices and fomentations; after which the injections were used, as already described, and the patient was discharged completely cured on the 27th of May.—*Johns. Journ.*

Balsam Copaiba and Cubebs, by Enema. (Hôpital de la Faculté).—During the last six months of 1826, M. Velpeau has tested the effects of balsam copaiba, administered by enema, in twenty or thirty cases of gonorrhœa, under the direction of M. Roux, in the hospital above mentioned. Five of these patients were females, and all these were speedily and effectually cured.

Abscess of the Iliac Fossa (M. Bretonneau, of Tours).—A young woman, after an accouchement, became affected with a large abscess in the iliac fossa, and in front of the pelvis—an abscess which opened into the bladder, the matter was discharged by the urethra in large quantities. The patient was rapidly sinking from the discharge, when M. Bretonneau exhibited, by lavements, two drachms of the balsam of copaiba in decoction of cinchona. By this practice, the quantity of matter was quickly lessened—the cavity of the abscess healed, and the patient got well.

M. Bretonneau has employed the same mode of administering the copaiba, with success, in several cases of chronic bronchitis, accompanied by expectoration of pus, and where the patients were considered as affected with phthisis.

Cubebs.—This substance was tried in lavements, in doses of six or eight drachms, upon three or four patients. In one case it was completely successful, in a very rapid manner, though the gonorrhœa had continued a month.

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